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JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

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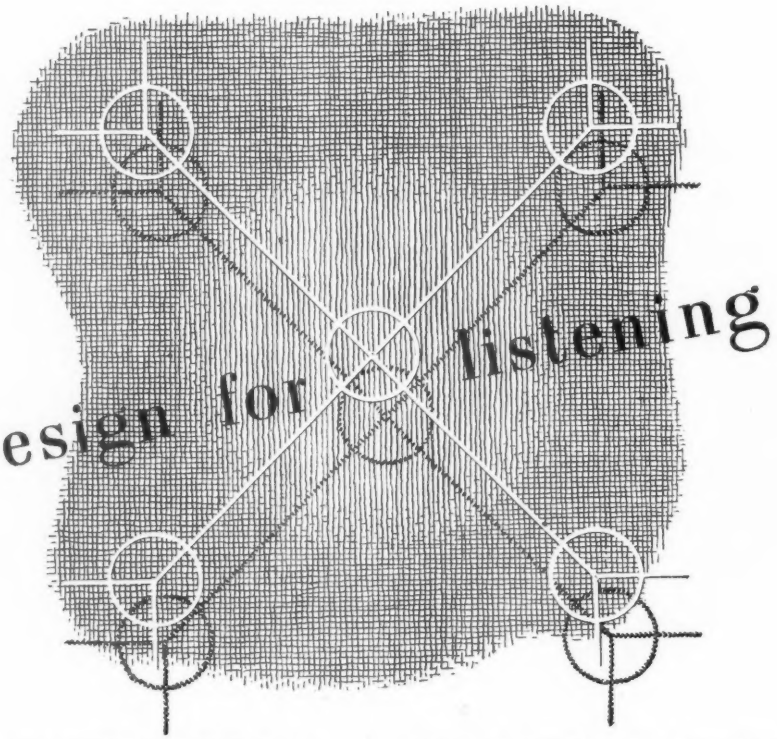

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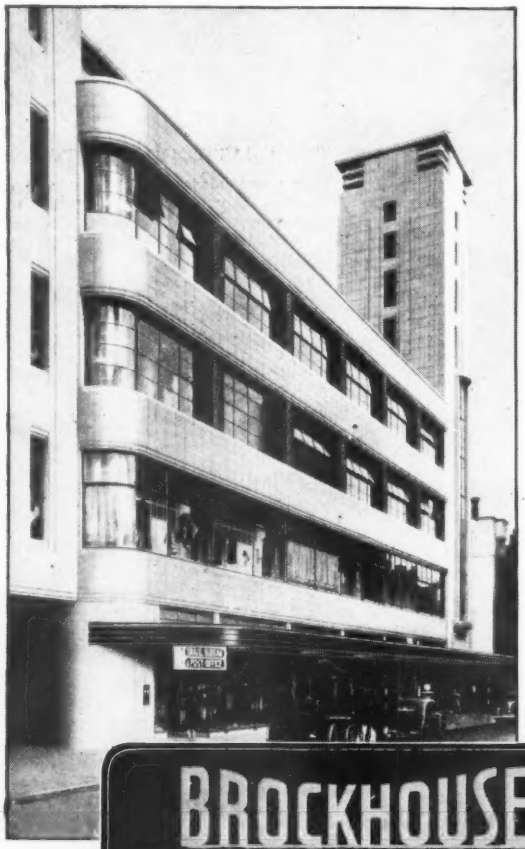

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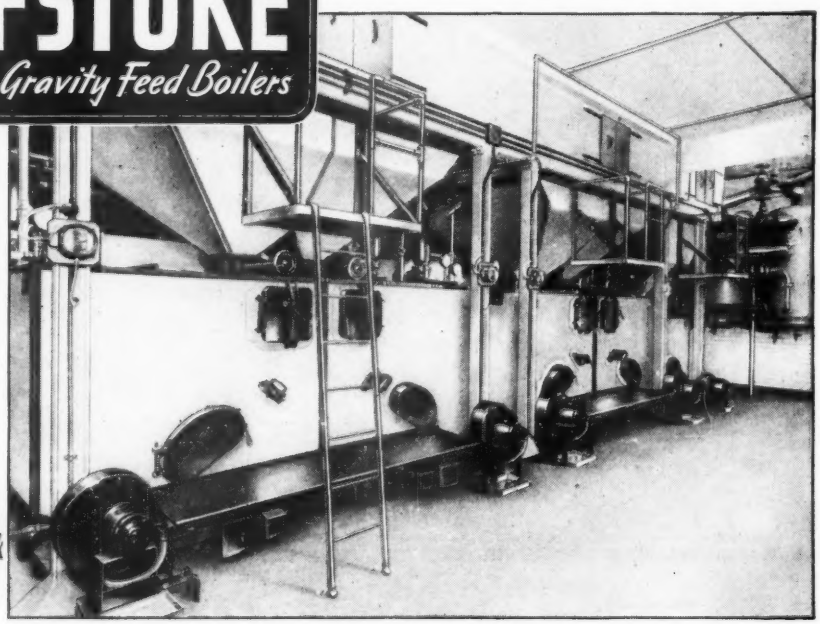

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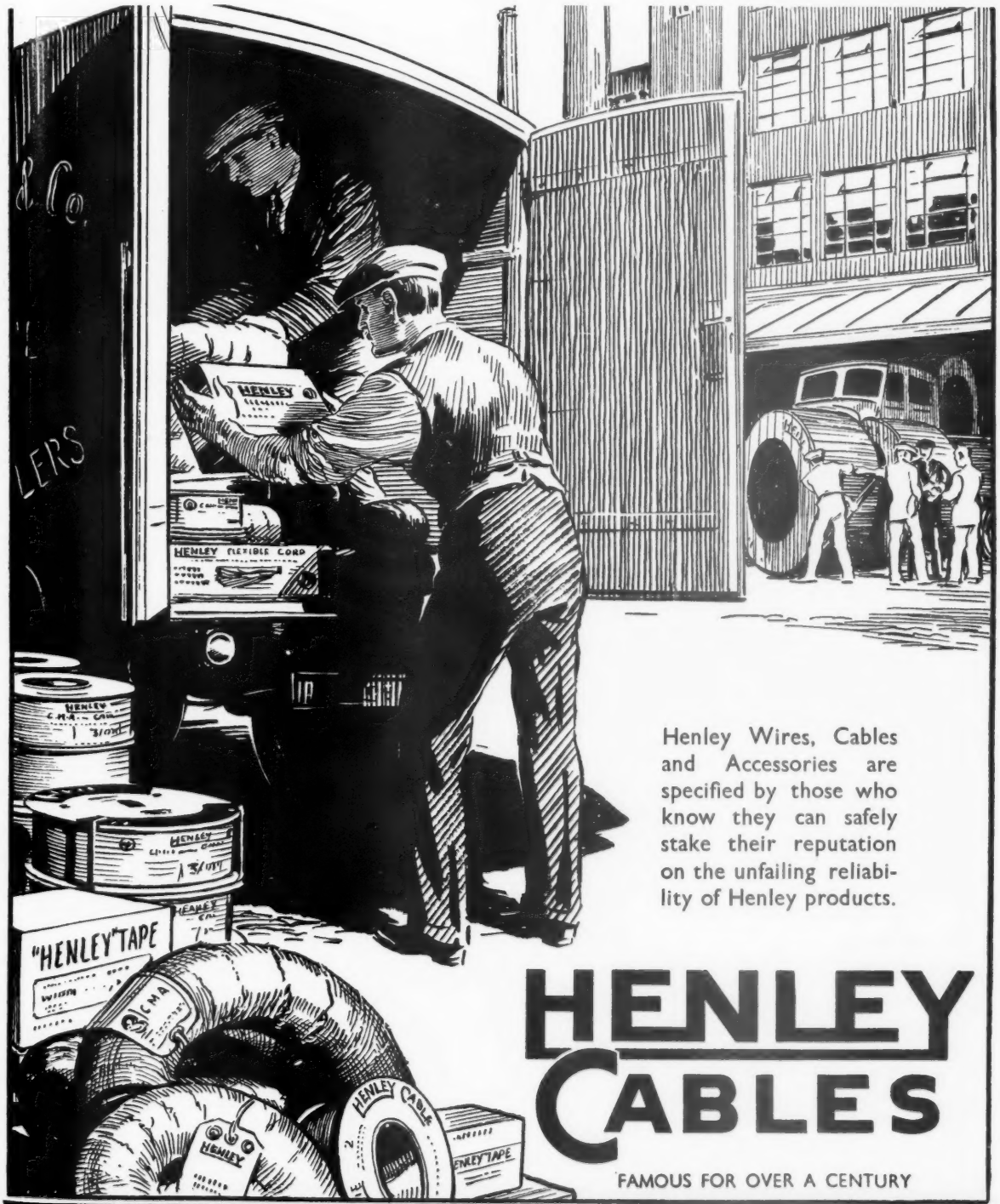

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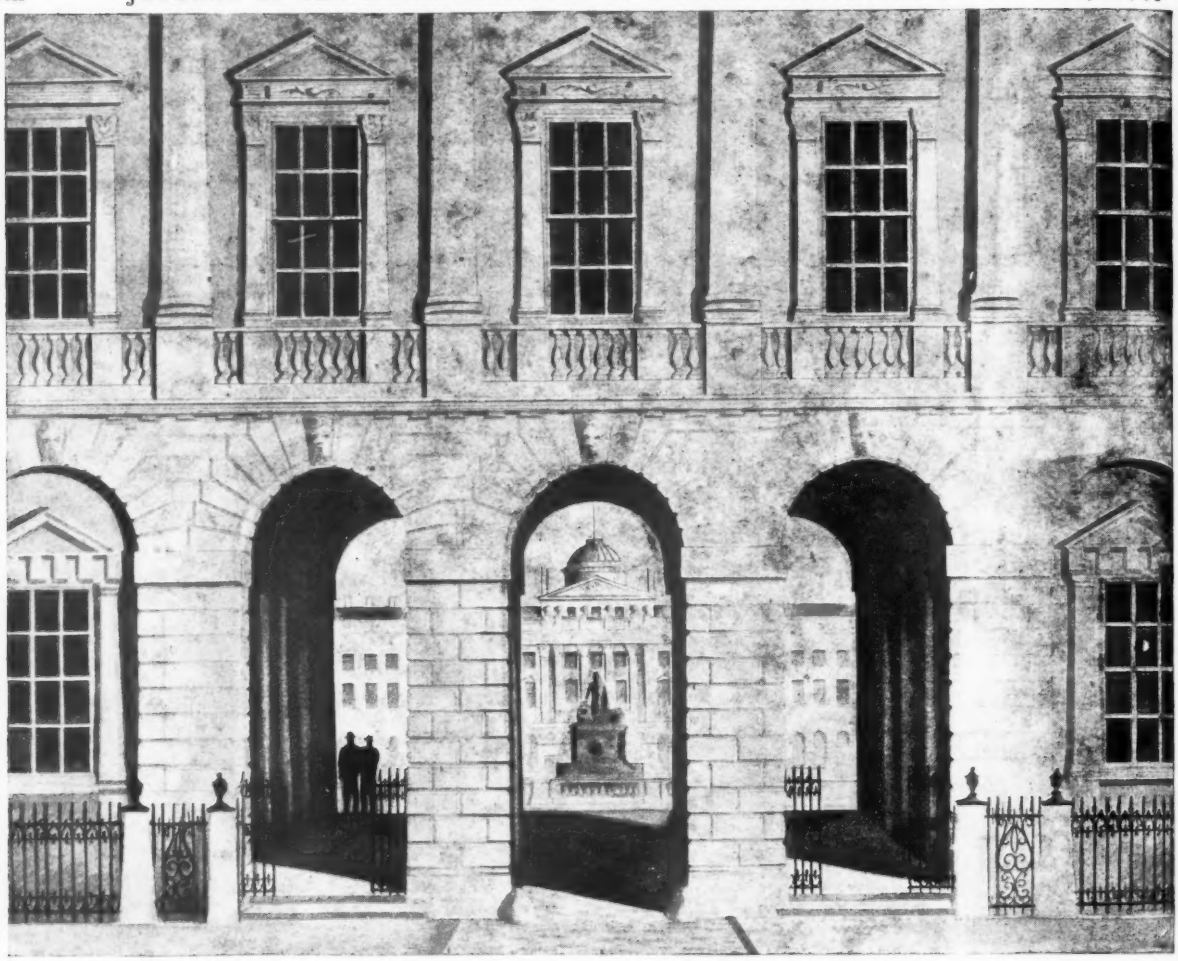

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PREFABRICATION and BRICK

The following comments are from the speech of Sir P. Malcolm Stewart, Chairman of London Brick Company Ltd., at the forty-fourth annual general meeting of the company.

Prefabrication has received much publicity. The Minister of Works, Lord Portal, has accepted this method of construction to meet an emergency in a transitional period. There has been some concern among those interested in the supply of materials for the construction of traditional housing lest the prefabricated house should displace the standard type of house we are accustomed to, or, at any rate, reduce the demand for such houses.

If the problem is looked at in the right light it should be realised that the Government's decision to embark on prefabricated housing is not inspired by any question of choice of type, but is due to the determination to provide as quickly as possible accommodation of a temporary character for those young people returning from the war and others dispossessed of their homes by blitz. In a word, the effort is to provide homes ready for occupation at the earliest moment and on the largest scale practicable. If the matter is thus envisaged it is clear that all concerned should place first this national need in an emergency.

You are doubtless forming the question in your mind, how will the priority and prestige given to prefabricated building under the ægis of the Government affect the manufacturers of building materials, particularly our company, as the largest brick makers in the world. The degree of detriment to the manufacturer of building materials will, in my opinion, depend considerably on the reaction of the professional services, the building operatives, the manufacturers of materials and particularly the numerous smaller building contractors.

We have to face a new competitor entering the field offering speed of assembly and possibly lower first costs, but whose production, however designed to please the eye and conveniently fitted up, will lack certain fundamental requirements and amenities. The prefabricated house gets a wonderful start while the traditional house gets away later from scratch. How can it win the race? By confirming to owners or tenants that brick houses are more comfortable and pleasant to live in. It is no good decrying prefabricated structures, it is up to us to produce progressively something better and get it accepted as such by the householder. I am not afraid of the issue, there are several helpful factors in our favour apart from the pleasing results which can be produced by building in brick when an experienced architect is employed.

The public like a brick house; it gives a sense of permanent security and of solidity not to be obtained from any temporary structure. Bricks have established themselves for domestic construction and have stood the test of thousands of years. They will survive competition so long as they are best fitted to the purpose to which they are put.

While prefabricated buildings could be low in cost if mass produced, it must be remembered that they are not intended to be of a durable character. Their cost has yet to be proven in this country and comparison should be made with the results obtained by those contractors who have operated on a large scale. It must be remembered that though they have built thousands of brick houses these total but a small part of the aggregate number built between the war periods.

There is going to be after the war much competition from a big range of materials, old and new. Many will fall by the way, as they did after the last war, despite their being much boosted.

The most pressing need is to reduce the cost of the traditional house. This must be accomplished to the maximum degree to make possible the granting by Government of reasonable subsidies, the finding of sound finance and the establishing of fair purchase price or rent. The most effective method of reducing the cost is to tackle first the heaviest items. Everyone who has had experience of house building will know that while the walls can be run up and the roof placed quickly, there is an interminable delay in fitting up and decorating before occupation can be enjoyed. A variety of tradesmen have to fiddle about with fittings which never fit and much time is wasted and costs increased. This is the common experience. I do not say this applies to those large scale contractors who have practised standardisation.

Now, to overcome these difficulties it will be essential to apply prefabrication in respect of fittings to the greatest extent possible. Fittings can be much reduced in cost if mass produced and assembled on panels at the factory ready for delivery to and erection on site. But those who manufacture them must be assured in advance of bulk orders to permit of full and continuous production, always essential to low costs. Further, an adequate number of houses must be contracted for at a time by local or other authorities or parties. Lastly, and this is a pre-requisite, the batches of houses to be built must be strictly dimensioned in respect of every part designed to receive the prefabricated fitments. Here lies opportunity for reducing the cost and building-time of traditional housing and of retaining all the comforts to which we are accustomed.

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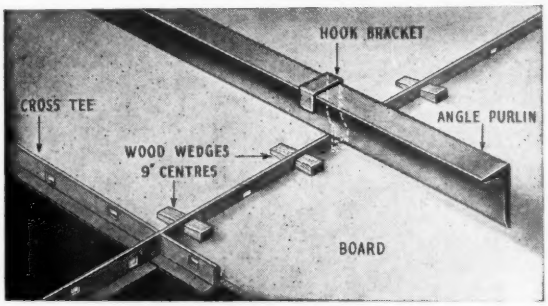

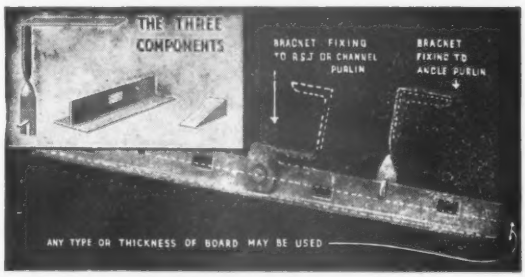
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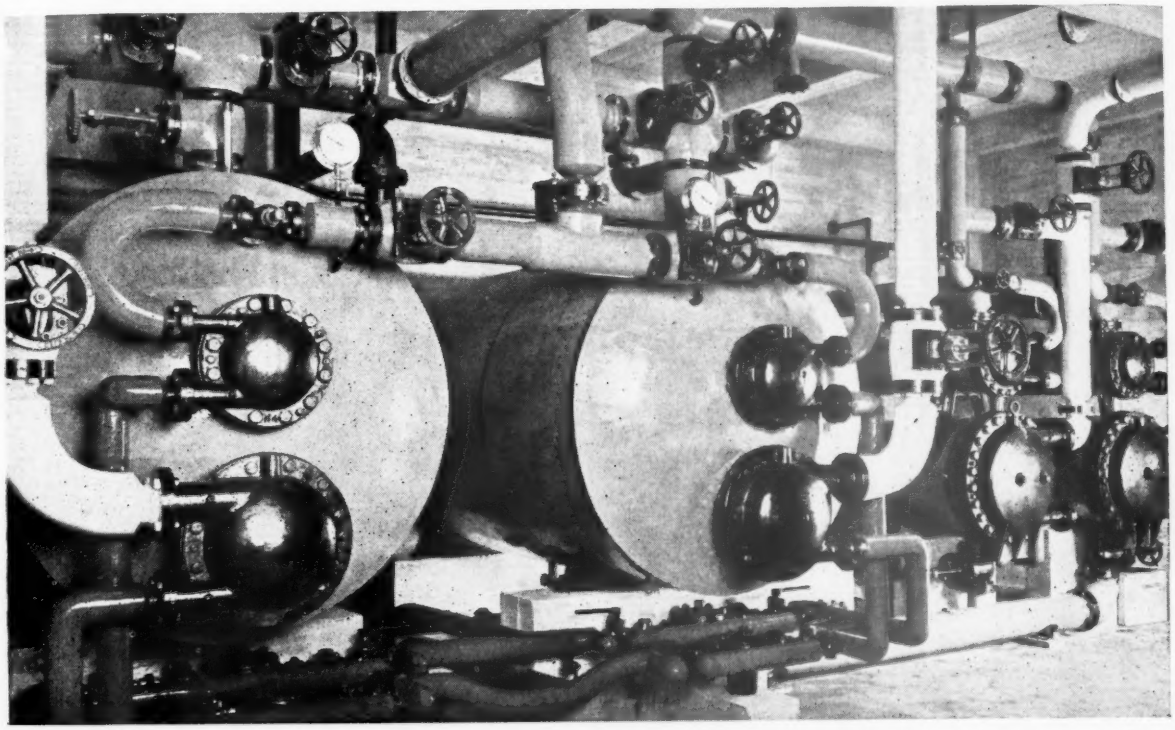

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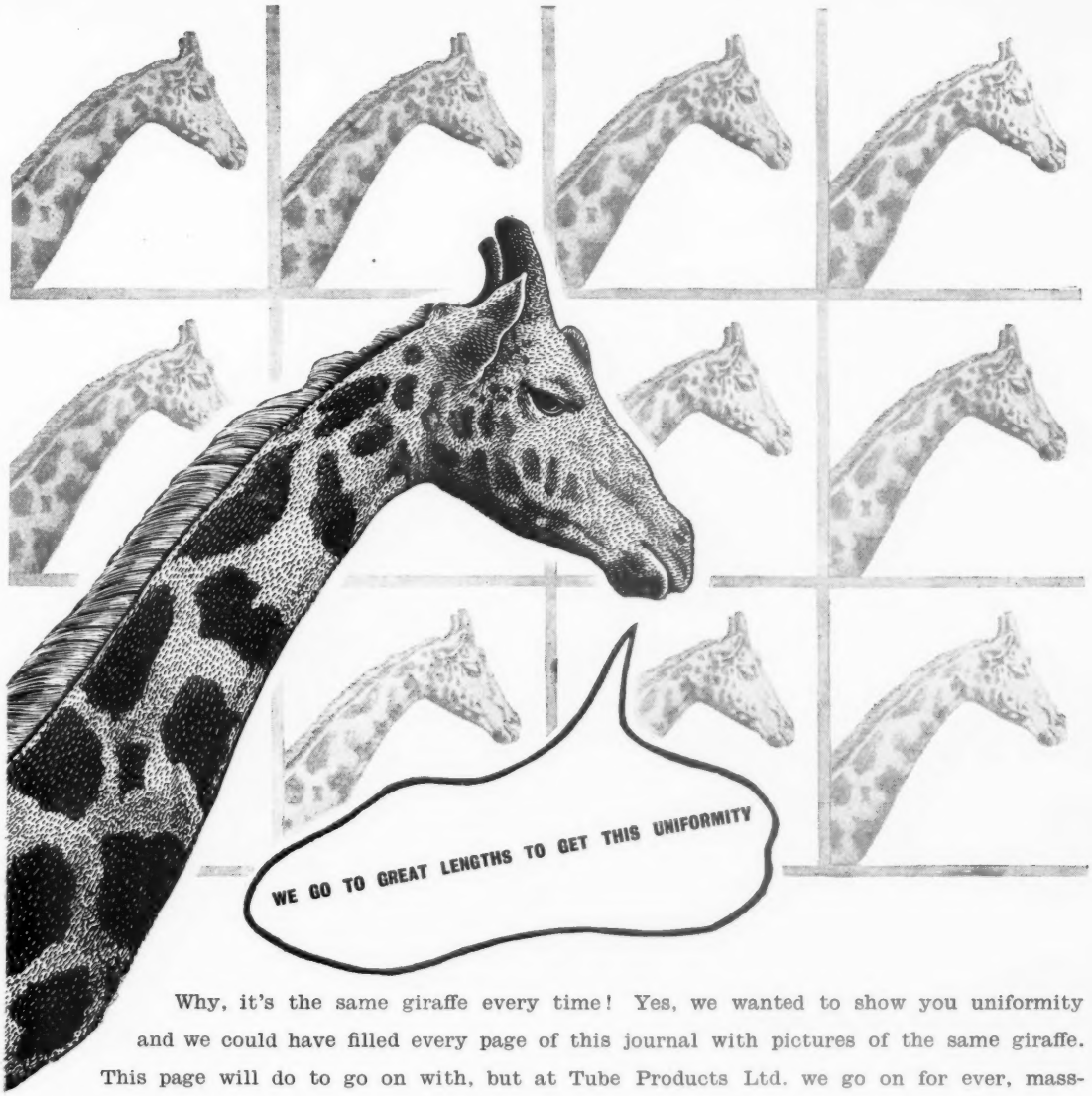

Why, it's the same giraffe every time! Yes, we wanted to show you uniformity and we could have filled every page of this journal with pictures of the same giraffe. This page will do to go on with, but at Tube Products Ltd. we go on for ever, mass-producing Tru-Wel electrically welded steel tubes by the million, with absolute uniformity, in accordance with your specifications. Every length is tested. Any deviation, however small, in quality, in strength, dimension or concentricity, is discovered and corrected before it reaches you. That means that you can carry ahead with *your* mass-production problem with the absolute assurance that every unit will give equal service. If you wish, we can also manipulate the tubes to your requirements.

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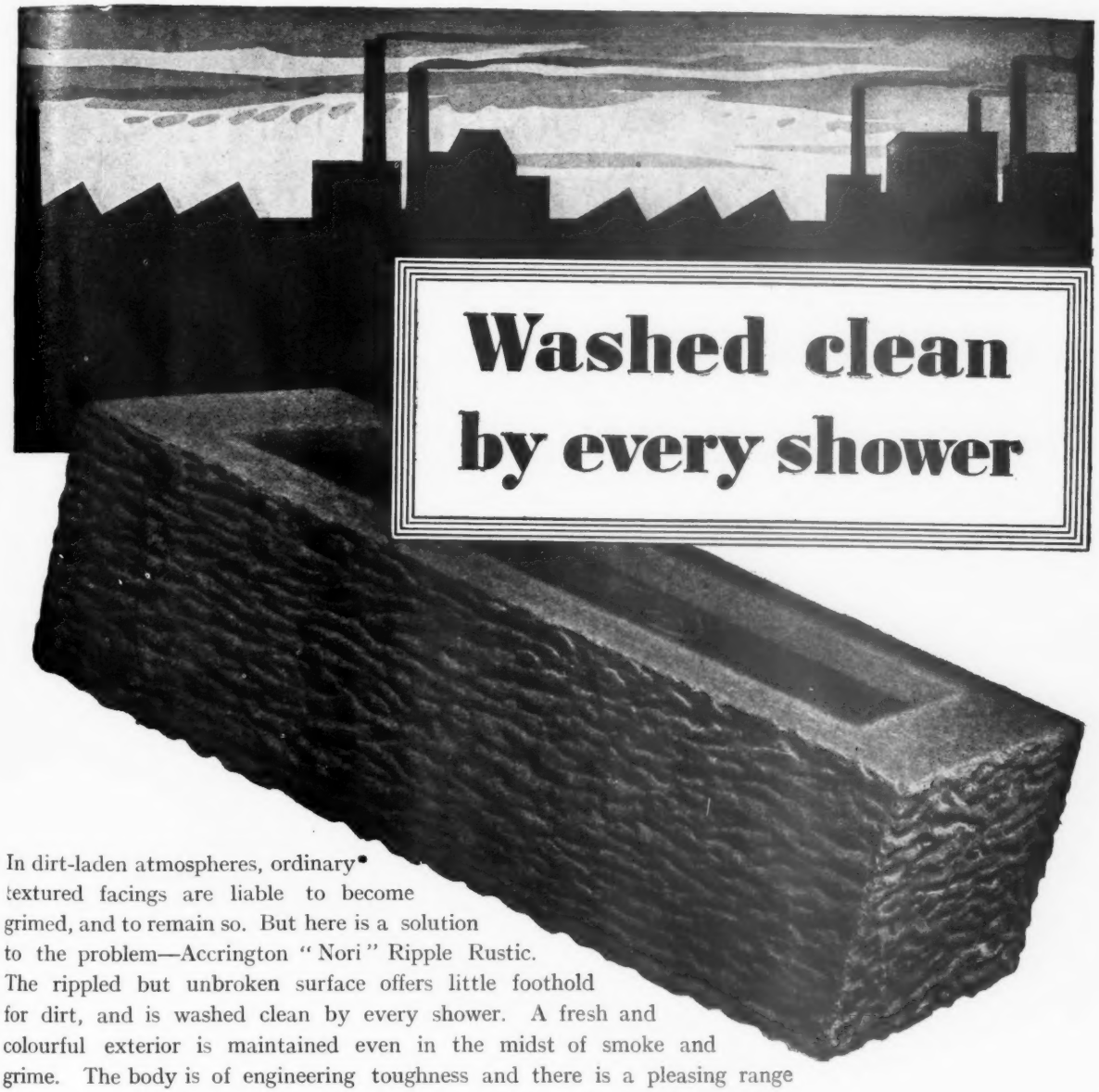

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3rd Series] [*Vol.* 51

No. 7 MAY 1944

SIR EDWIN LUTYENS, O.M.

Bronze by Sir William Reid Dick, R.A. The original was made for the Viceroy's House, New Delhi. Presented to the R.I.B.A. by Lady Emily Lutyens and Wing Commander Robert Lutyens [*F.*].

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Journal

1944 COUNCIL ELECTION

NEW NOMINATIONS

The following nominations have been made by members in accordance with Bye-law 35 :—

AS MEMBERS OF COUNCIL

ASLIN : CHARLES HERBERT (Derby). Nominated by A. C. Bunch, J. H. Forshaw, C. G. Stillman, *Fellows* ; Robert F. Fairhurst, C. E. Stafford, A. G. Walker, *Associates* ; G. Dawes, *Licentiate.*

BENNETT : THOMAS PENBERTHY, C.B.E. Nominated by W. Fraser Granger, M. Hartland Thomas, *Fellows* ; W. M. Blouet, Andrew Boyd, Arthur Ling, Colin Penn, Z. Sirotkin, *Associates.*

CART DE LAFONTAINE : LIEUT.-COL. HENRY PHILIP L., O.B.E., T.D. Nominated by C. E. Bateman, Arthur J. Davis, Henry M. Fletcher, H. Austen Hall, Charles Holden, Grey Wornum, *Fellows* ; E. Berry Webber, *Associate.*

EASTON : JOHN MURRAY. Nominated by C. Lovett Gill, L. Rome Guthrie, Charles Holden, C. H. James, Julian Leathart, Brian O'Rorke, Howard Robertson, *Fellows.*

FAIRWEATHER : GEORGE (Welwyn Garden City). Nominated by Frederick Gibberd, W. F. B. Lovett, *Fellows* ; John D. Broadbent, Frank A. Norris, Hugh S. Pite, Cecil Stewart, *Associates* ; Eric Brown, *Licentiate.*

GIBBERD : FREDERICK. Nominated by D. L. Bridgwater, George Fairweather, Brian O'Rorke, Howard Robertson, *Fellows* ; Eric Jarrett, B. H. Peake, Denis Roberts, *Associates.*

GRANGER : WILLIAM FRASER. Nominated by M. Hartland Thomas, *Fellow* ; H. L. Barton, W. M. Blouet, Andrew Boyd, Arthur Ling, Colin Penn, Z. Sirotkin, *Associates.*

HORTH : FREDERICK JOHN (Hull). Nominated by Victor Bain, Ingalton Sanders, John Swarbrick, *Fellows* ; J. S. Allen, F. W. H. Allison, (Miss) E. S. King, J. R. Tolson, *Associates.*

LOBB : HOWARD LESLIE VICARS (Brentford). Nominated by T. Carr, Anthony M. Chitty, Cyril A. Farcy, *Fellows ;* G. Greenfell Baines, Bernard Dangerfield, R. D. Hunt, Alan L. Luke, G. H. Oliver, K. F. Templeman, *Associates ;* A. R. Green, J. C. Morris, *Licentiates.*

MACFARLANE : GEORGE GORDON, M.C., B.Sc. Nominated by Harold Dicksee, B. Ewart Dixon, Charles Holden, C. H. James, S. Rowland Pierce, Launcelot H. Ross, T. S. Tait, *Fellows ;* Herbert L. Honeyman, Charles Woodward, *Associates.*

MCMORRAN : DONALD HANKS. Nominated by John Murray Easton, Horace Farquharson, Stanley Hamp, E. Vincent Harris, Sir Giles Gilbert Scott, Stephen J. B. Stanton, G. Mackenzie Trench, *Fellows.*

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R.I.B.A. ARCHITECTURAL SCIENCE BOARD LECTURES

The R.I.B.A. Architectural Science Board announces the fifth group of lectures on the results of recent scientific research which are of interest to architects and all connected with the building industry, to be held at the R.I.B.A., 66 Portland Place, W.1. The syllabus is as follows :—

Tuesday, 6 June 1944, at 6 p.m.

SOCIAL SURVEY TECHNIQUE OF OBTAINING INFORMATION FOR HOUSING, by Mr. Dennis Chapman, B.Sc.Econ. (Lond.).

Tuesday, 13 June 1944, at 6 p.m.

SCIENCE AND HOUSING, by Mr. A. M. Chitty, M.A. [*F.*].

Further details will be announced later.

A SCHEME FOR TEMPORARY POST-WAR OFFICE ACCOMMODATION FOR ARCHITECTS

The War Executive Committee of the Council have approved in principle a suggestion submitted by Lieut.-Col. V. H. Seymer [*A.*], for the provision of temporary office accommodation for architects demobilised from H.M. Forces or released from other forms of National Service.

It is recognised that many architects returning to private practice will have lost their former offices owing to enemy action or for other reasons, and will lack equipment which in the immediate post-war period it will be difficult to replace.

Other members of the profession may, however, be in a position to offer temporary hospitality in such cases, thus enabling those whose practice has been suspended to resume work as quickly as possible and to make more permanent arrangements at a later stage. The duration of such hospitality would, of course, be a matter for private arrangement.

The War Executive Committee commend this scheme to the attention of practising members, who are invited to advise the Acting Secretary of their willingness to assist in the manner suggested and to indicate the number of architects to whom it would be possible to offer temporary accommodation.

PREFABRICATION

Report of an Informal Meeting at the R.I.B.A. on Tuesday, 4 April.
Mr. A. C. BUNCH, Vice-President, in the Chair

Mr. G. A. Jellicoe [*F.*] : This is a very important subject, and it is most important that we should determine what part we as a profession are going to play in it. As many of you know, I visited the United States about eighteen months ago, and as a result I became convinced, and have since tried to convince others in this country, that prefabrication is going to come, and that nothing that anyone can do will stop it. In that connection, there is great significance in the speech which the Prime Minister made a few days ago, in which he referred to the erection of half a million houses.

To-night I want to deal with what I think is the essential part that our profession, and our profession alone, can play in the life of the nation so far as prefabrication is concerned. On the last occasion on which I gave a talk on this subject I showed a film of a house designed by a well-known architect working in collaboration with the prefabricators. There was a second film which I did not show you ; it related to a further 6,000 houses constructed by the same firm but of mean design. No architect had been employed and it was as though the machine had said " Get out of my way, little man."

First of all, we have to design houses which will "pass through the machine." It is interesting in this respect to compare the façade of I.C.I. house in London with the Empire State Building in New York. In the original design of the latter, for instance, the window reveals were quite deep ; the architect wanted his " classic " shadows. The contractor, however, said " If you remove the reveals and bring the glass to the front, I can put the whole thing through the machine." That was done, and the result is in fact better from all points of view. The façade of the I.C.I. building, on the other hand, is of the classic type and could not go through the machine. The first point, therefore, is that where machines are going to be used we must design our buildings accordingly.

Secondly, we cannot simply say that with the new use of machines, everyone must be ready to accept something completely new in design. If we study history, we find that as a race we like our history to overlap. Somehow or other we have to give the ordinary man a sense of security in his home, and if we do not, the jerry-builder will do so by sticking on a piece of " Tudor-bethan." Even the Americans have had to face that, and some of their prefabrication is in the Renaissance style.

In the western world, we live in a kind of philosophical box, and we are so completely shut in by it that we do not realise that there is a different life and a different philosophy outside. The western world has always in its ideals had an urge towards perfection ; it is always chasing something. It is based on the Man of Reason who thinks for himself. The Greeks, more than two thousand years ago, evolved a philosophy, and a very sound one, and it is the development of that philosophy, that aims for perfection, which has produced the machine ; and the machine, if we are not careful, is going to wipe us out. The great thing that we have to do then, is to establish the supremacy of *human* values over *machine* values.

On the other side of the world there is a philosophy which is very much older than ours, the Chinese philosophy, which says that we are part of the animal and plant world and that our real happiness is to be found within its framework. That means that the Chinese have not that urge towards higher perfection that leads to constant change, and that instead they respect and value continuity.

The expression of Western philosophy

About two hundred years ago it was discovered in the western world that the mystery of the heavens was all subject to scientific law, and about the same time Eastern ideas began slowly to percolate into the Western world. The spread of romantic ideas and an interest in natural landscape seems to indicate that it was already felt that man cannot live by geometry alone. The same thing is now happening to the Chinese only it is the other way about ; they *require* the machine, they cannot live wholly by their own philosophy. I feel that in the philosophy of life which is coming in the future we require something of the philosophy and consequently of the architecture of both the East and the West. There never was a more untrue saying than that of Kipling— " East is East and West is West, and never the twain shall meet."

The Man of Reason will make everything smooth and flat and even ; he will geometrise the whole world. The use of large machinery to-day to flatten out sites is logical, and the machines will get larger and larger and the sites flatter and flatter. We cannot argue against it ; it is economically sound. It is the same with prefabrication ; we shall go further and further with it, and the Chinese could well sit back and say " What fools these Western people are, disdaining the very nature of which man himself is part."

The expression of Chinese philosophy (from *The Spirit of Man in Eastern Art* by Lawrence Binyon).

There is a science which has hardly begun as yet, but which I think is going to affect us very much in the next hundred years. It is based on the fact that we cannot live without animal and plant life. The man in the street has that urge to be associated with nature ; he wants his garden and his plants and so forth.

To show how strong is this feeling I would remind you that the one order which the people of this country would not accept from the Government was that which stopped the transport of flowers from the West of England.

If you turn to the East, you find that this problem of prefabrication has already been solved very well. The Japanese house is in a sense mathematically prefabricated, but its relation to surrounding nature has been very carefully studied, and is very pleasant indeed. The Japanese, of course, get their philosophy from the older Chinese.

The first thing with which we have to deal, I think, is the disposition of the houses on the site. Instead of our profession being paid a few shillings per house for the layout of the housing scheme, we must give the greatest thought to the disposition of the houses on the site and to the planting and why the plants are there and what is our relation to them.

The science* to which I have already referred indicates that ourselves, the soil, vegetation and so forth are all in equilibrium and suggests that if we are not careful we shall upset this balance by the use of the machine.** Our object in planning the disposition of the houses on the site must be to retain the balance between nature and the machine. I saw a lay-out on the West coast of America, where there were some four hundred houses " turned inside out " as it were, and grouped round a central open space which is full of trees and plants, and on to which all the living rooms look, with all the noisy, mechanical world shut out. In this way you get the richness of both worlds. In this country you will find something of the same sort in Gray's Inn, where an extremely good balance has been preserved.

Coming to the house itself, I would follow this biological idea and associate the human being wherever possible with material made from things which grow from the ground, avoiding cold and lifeless materials. The age of steel furniture for instance was one of the most repelling ages. The human being likes things which are warm to the touch. If you have a steel house you must use wood panelling or plywood or in some other way make use of warm materials not dug from the ground. Fundamentally we are associated with the things which grow, and we like to live where plants like to live. A plant will grow up a brick wall but not a concrete wall. Why ? Because the concrete wall is cold and dense and sweats and is horrid. We, also, like living in brick houses, not concrete houses. It may be that the new, lightweight concrete which can now be produced will solve this problem. But we are biologically the same as a plant, and if you take away from us the things that a plant requires in order to live you will upset the balance.

We like to have in our homes things which afford a contrast to the mechanical idea, just as the Japanese do to an extreme ; they have one or two works of art in their rooms which they change every now and again, and for decoration they have flowers and plants.

It is surely the fundamental task of our profession, and of ours alone, to preserve the humanities. We must, of course, also help in working out the technique ; we must have good design and good planning ; but the main thing is the maintenance of human quality over machine quality, and that must be based on a very deep philosophy for which the history of our western world is not sufficient. We require both the East and the West in the world of the future ; and I hope, Mr. Chairman, that our schools of architecture will come to adopt a global instead of a European education. The Greeks did.

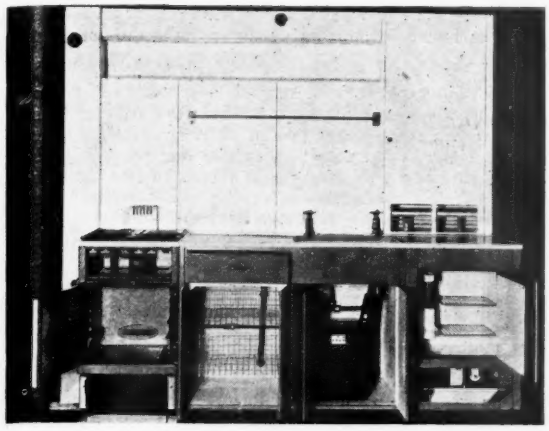
Mr. R. H. Sheppard [*A.*] :—I have been engaged on prefabrication in my private capacity, and it is on that basis that I am talking this evening. Mr. Jellicoe has covered the broader aspects of the subject and with what he said I entirely agree. I think there is a great danger, if prefabrication does take place on the scale which the Prime Minister referred to a few nights ago, of a lowering of standards both social and technical, and we must take care to maintain the qualities which we desire to have in the designs which are produced. There are, however, three things which have occurred to me in dealing with prefabricated methods of building which have some bearing, I think, on the question at issue.

The first of these, which does tie up with what Mr. Jellicoe has been saying, is a social matter. I merely throw this out for discussion, and do not suggest that there is any easy answer to it, because I do not think that there is. Very few of the present systems are likely to be permanent. There is no doubt at all that many are technically successful. Whether they will be technically successful in the sense that they will be able to compete with orthodox methods of building when orthodox methods of building are speeded up scientifically I do not know ; but, leaving aside the question of cost, several of them are certainly adequate in regard to what may be called performance standards.

Secondly, how long will they last ? That, I think, is the crux of the question from the social point of view. Obviously such bodies as building societies are not going to be interested in systems of construction which have only a limited life, because the majority of purchasers put their savings into their house. It seems to me, therefore, that some form of State control will be necessary not only on questions of standards, where I think it will be absolutely essential, but also on questions of cost and the renting of houses. To expand this a little, it is clear that the

*This science is termed " Biotics."

**Since this lecture an article has been published in " Country Life " for 12 May by Sir Albert Howard, C.I.E., on " Organic Agriculture " in which the author, using the example to Chinese agriculture, states perfectly the same case that I have made for the maintenance of a natural organic unity as the sole means of maintaining a living equilibrium. By the maintenance of such unity only can we prevent a disastrous breakdown.—G. H. J.



The Prefabricated Kitchen bathroom unit in the " Churchill " house. The kitchen side.

potential demand for houses of any sort will be tremendous and costs should be subject to control to eliminate the get-rich-quick kind of building.

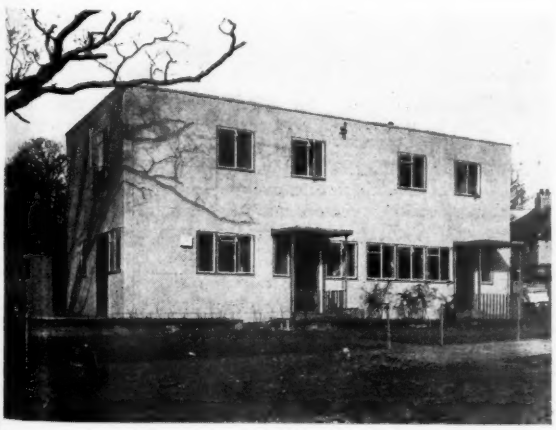
This question does not apply to the structure alone, but also to the equipment. One has seen in the architectural papers recently all sorts of kitchen and bathroom equipment, plumbing units and so on which represent a very efficient solution of a given problem. The question of rental is complicated by the fact that whereas a normal house has a long life the cost of the temporary one is not likely to be fixed in relation to its own life since it is intended as an alternative source of supply outside the orthodox industry. The rentals will therefore require subsidy in some form or another. No one knows how they are going to work out from the point of view of the local authorities. Local authorities in the past have kept down the amount of equipment which they have put into their houses to a minimum, and very wisely from their point of view, because it has reduced the amount of maintenance which they have had to face. The gas company provided the cooker and took care of the maintenance of that and the authorities avoided responsibility in this matter. But with refrigerators, clothes driers, standard cupboards, and so on the position becomes very different and the authority installing a good kitchen unit may find itself responsible for a great increase in maintenance costs. While the people want better standards of equipment, they will have to be educated in its use. The illustration of a kitchen unit shows the increased range of components.

The best type of tenant on housing estates, I am told, is the tenant who tries to improve the house in which he lives. Most of the houses provided before the war were so sub-standard in equipment, cupboard accommodation and so on that the tenant has had to be a handyman and provide equipment for himself. In council houses one finds all kinds of things which have been added in this way. That has got to be possible with prefabrication, and it seems to me that we have to devise some means of providing the tenant with facilities for making his own contribution to the way in which he lives. To put it broadly, we must allow flexibility to suit the human factor, so that a tenant can live in a standardised house in the way which he prefers. It is possible to provide a great deal of flexibility in the planning of these prefabricated houses—quite as much, in many ways, as with normal methods of construction.

I mention these questions which have occurred to me in the course of some work on this subject, but I do not attempt to give any answer to them. I do not suppose that there is an easy answer. I want now to say something about the particular questions with which architects are faced in carrying out this work. Mr. Jellicoe referred to the question of site layout and the grouping of these houses, and I think that that is of the utmost importance. I believe that the only way in which we shall get a reasonable social unit is through the neighbourhood unit, by arranging houses of all income groups in that unit, and providing a social or community centre and the community services with it. Houses alone, are not enough. We must provide the means of building up a vigorous social life. That, I think, is generally accepted in town planning to-day, but it is more than ever necessary with prefabricated houses, because something is needed to combat the sense of impermanence, " Here to-day and gone to-morrow," the feeling " We are municipal lodgers, and we may live here for five or ten years and then be pushed into another suburb because our family is growing up." I think it will be much easier to combat that feeling if we provide all the apparatus of communal living and group large numbers of prefabricated and normal houses together into a coherent and unified social pattern. Such houses must be very carefully sited and grouped if they are not to look like an aeroplane reception dump. In America they have had some experience in this and one prefabricated housing scheme set in a wood, looks very attractive. Careful siting, grouping and planting will help. We should start planting now.

The second point is the standardisation of components. I mention that before dealing with the catch-phrase of the pre-

Unibuilt system houses at Coventry. Consulting Architects, G. Grey Wornum [*F.*] and R. H. Sheppard [*A.*].



fabricators, " dimensional co-ordination," because I think that the standardisation of components is very much more important. I think that anybody who is concerned with standardisation, whether for normal building or for prefabricated building, has to take this question very seriously indeed. We cannot produce equipment on a mass-production basis for houses, for schools or for other types of buildings unless an interchange is possible between the various components. Before the war we had scores and scores of firms producing their own particular type of article with its own set of dimensions, based on the methods of manufacture and tooling which happened to be available in the workshops when the design was drawn up. We must try to impose some standard of design not only in appearance but also in dimensions and performance upon the equipment which is going to go into houses generally. For instance, an electric or gas cooker, which is going to be used generally, must be equally suitable both for houses of normal construction and for the prefabricated type, and be capable of being fitted into the prefabricated system. That is quite a problem, because with many systems of prefabrication it is very difficult to connect up non-standard or non-proprietary units.

With regard to dimensional co-ordination, I am going to drop a brick. Most people seem to regard dimensional co-ordination as absolutely inherent in prefabrication. I myself think that it is of great importance, and I am far from minimising its importance. It is the theory that since we are going to have standardised components and since we are going to use standardised equipment in the form of windows, doors and so on we should also arrive at a dimensional module which should apply as far as possible throughout the building industry. In my won experience, however, what is an economic dimension in one material is not likely to be economic in another. If you are going to produce 25,000 steel articles, the saving which you might make in steel is not so important as the saving in man-hours ; and if you make a component in one material of a certain size, it does not follow that you will want that component of the same size in another material.

To take a definite instance, it does not matter to the manufacturer of building boards, if he has a really big order, whether he has to tool his machinery to produce a board of 4 ft. only or boards of 4 ft. and 3 ft. 10 ins. He can have a day's production on 4 ft. and a day's production on 3 ft. 10 ins., and the extra cost involved in varying the size of the board in that way is so small that it does not matter. A dimensional unit is a great asset and a great simplification, and I think we shall arrive at it, but I do not think that it is the basis from which to start. Unfortunately, however, I have seen numbers of schemes, particularly those produced by architects, in which standardisation of dimensions is made the starting-point. I have seen plans for producing a standardised house which are simply based on a common dimension which runs all the way through it.

I think that that is rather the weakness of the architect when he comes to design something without full knowledge of the resources of the industry which is going to manufacture any particular type of construction. Architects cannot, so to speak, design prefabricated systems in a vacuum. In the first place, we do not know enough about it. Successful prefabrication implying mass production, depends more on the production engineer than on the architect, and more on the production engineer than on the structural engineer ; because it is the production engineer who can say whether the design which you make for a given component or for a given method of fixing a material is going to be practicable in the shops where it is manufactured. Unless and until you have at your beck and call a production engineer to whom you can say, " Can this be run off easily ? " you are not going to get very far. The ideal combination is the architect, the production engineer and the structural engineer working together. I think that that applies not only to the so-called steel houses (whatever they may be) and to the stress-skin houses of various types but even to concrete houses. This is a matter where, as in general building practice, the architect has to function with a number of other specialists and direct both the structural engineer and the production side as well, but it is a very much closer and more exact process, as I see it, than that which occurs in the normal type of building.

I do not think that the architect working by himself can produce successfully a system of construction, but the architect has to be there. If you saw systems produced by structural engineers or people in factories you would realise that they have no ideas about what constitutes a successful house at all ; they simply think in terms of the easy production of a given article in their work, and that is very far from providing a successful house. One has to humanise these houses, as Mr. Jellicoe put it. I know that this applies to the system in which we have just erected a couple of houses, and although we are satisfied on the technical side, we feel we have a tremendous amount of work to do on the design side, in the way of using alternative materials to give texture and pattern to the elevations.

Frankly, I do not think that we have gone far yet ; I do not think that we have begun to explore this problem thoroughly or begun to get any results. I know of the work done in the United States only by hearsay, but I believe that there is still a great deal to be done before we begin to arrive at a system of construction which is successful from the human point of view.

A minor point which may be mentioned is the type of drawings required. The drawings required are completely different from those which are needed with ordinary building technique. In normal building technique we need to specify large numbers of dimensions, materials and finishes, and give in our drawings the actual design and appearance, to enable the various craftsmen to get on with the job. The architect must remember, in designing prefabricated systems, that there are no craftsmen at all. If you go into prefabrication thinking that you are going to get craft, you will get an awful shock. You must abandon the idea that you are going to get the kind of beauty and appearance that you get with craft ; it is not going to be there. There are other kinds of beauty and of appearance for which you must look, and which eventually you will get, but you will not get those associated with craft. If we are going to have inexpensive production, the crafts have to be eliminated from the building industry. Before the war, several big contractors engaged in housing in London were already working on a system whereby they had one team of men who built the foundations of houses and then moved on to another site, another team who built the bricks up to ground floor level, another team who built the floor, another team who built the walls up to the first floor, and so on, all of them working to certain standards and on a piece-work basis. That gave very good results indeed. It has been tried out in this war. Obviously it is that system of erection which you will get with prefabricated houses, and it will mean the use of skilled teams of erectors rather than of individual craftsmen. Large-scale erection will mean differences in building contracts as well as in the organisation of labour. The function of the contractor will develop further along lines which have been emerging in the last decade or two—the assembly and organisation of various sub-contractors on the site. One could say a lot about this.

Your drawings will not need any notes or descriptions on them at all. They will not even need any dimensions. All you will have to do is to write in the units, A, B, C, D and so on, upwards and downwards and across, and hand the drawings out, and then the erectors will put A in its place in relation to B and C, and so on. Originally, of course, it is necessary to have very elaborate and precise drawings to enable mass production to go on. These involve a very highly specialised technique. At the other end, however, you simply have these very simple key drawings for putting the thing together.

Lastly, we must ensure that prefabricated houses do reach an efficient standard of performance. They must be warm, dry and moderately soundproof. In the inter-war period we had no standards of any sort for housing except those laid down by the bye-laws ; sometimes, fortunately, they were successful, and

sometimes, unluckily, they were not. We cannot afford to take those risks with hundreds of thousands of prefabricated houses; we must insist that the Government lay down certain minimum standards of performance and see that they are adhered to, and see that prefabrication does not become, as it easily can, a method for a number of firms and individuals to get rich at the expense of the community. I do not think that that is happening at the moment, but it is a danger which we have to face, and it is a danger which may well arise if the process is not efficiently controlled.

Mr. Anthony Pott [*A.*] (Building Research Station): The two previous irritants—because I understand that the chief duty of the advertised speakers at an informal meeting is to stir the audience into action—have dealt with the wider questions concerning prefabrication. I am going to speak for a few minutes on one particular problem, the solution of which will be of great importance if prefabrication is to succeed. It is a problem on which Mr. Sheppard has already touched, the problem of evolving standards by which the efficiency of new methods of construction can be assessed and the reasons for the need of such standards, how they can be evolved, and the part which architects, individually and collectively, should play in that process. Mr. Sheppard referred to the Government laying down standards. Let the Government lay them down, but let the professions concerned and the building industry first of all hammer out what these standards should be.

First of all, let me deal with the reason for the need of standards for assessing the efficiency of new forms of construction, whether they are prefabricated (which I take to mean relying on a high degree of fabrication by machine methods and at least partial shop assembly) or whether the larger proportion of the work is done on the site. The reason is that without such standards the efficiency of new methods can be assessed only by comparison with the performance of traditional methods. This is unsatisfactory, because traditional methods and traditional materials produce more than adequate results in some respects and less than adequate results in others. The designer of a new method of construction will be unduly cramped in his attempt to produce the best solution from all points of view unless the basic requirements have been formulated. Given a statement of these technical requirements, the designer is freer to make the best use of all the available materials and to aim at improvements in performance over that of the traditional forms of building where the latter is judged to be inadequate.

This problem is not new, and is not necessarily restricted to prefabrication. It has come to light whenever the question of bylaws or other building regulations have been under discussion. In the P.E.P. report, *Housing England*, published in 1934, it is put in these words:

> "In the main, these regulations were originally drawn up in terms of the then current building practice, with a view to making them easily understood by men with no more than a traditional knowledge of building. Construction is specified not according to minimum requirements of strength but by the materials to be used, and as a result the introduction of new systems unknown at the time the rules were drafted has been greatly hampered."

The same thing applies in America, and I should like to quote an extract from a monograph on Housing published by the U.S. temporary National Economic Committee in 1941:

> "Another deficiency in most building codes is that the requirements are based on methods known at the time the code was written, at which time such provisions were considered fair and adequate. But with the development of new designs and new types of material these requirements work a hardship."

It goes on:

> "It has been recommended, and it seems entirely logical, that building codes should be written in terms of requirements consisting of basic principles only, in terms of accomplishment rather than in terms of specification, and that methods and materials should be illustrative only."

These quotations deal specifically with building regulations, but the same process of thought is liable to be followed in forming any judgment on new methods. The new is compared with the old, and because it is difficult and in some respects impossible in the present state of knowledge to define all aspects of the performance of either the new or the old, the tendency is to compare their forms, and familiarity, conservatism and experience combine to make the verdict usually unfavourable and often unfair to the new forms.

If the architect, either as designer, as a member of a production team, or as adviser, is to take the part which he should in the development of new building techniques, it seems to me that it is essential that he should have a clear idea of the basic technical requirements of the buildings with which he is concerned, and should welcome any attempt to define them.

This subject is very appropriate at the present time, in view of all the activity which is going on in connection with new forms of construction, and especially of house construction, and I want to draw your attention to the preliminary report of the Interdepartmental Committee on House Construction (the so-called Burt Committee) which was published last week. The first section of that report is concerned with the basic technical considerations of house construction, and it makes a pioneer effort to formulate standards for house construction "in terms of accomplishment rather than in terms of specification," to use the words of the American document from which I quoted.

In the introduction to that part of the report, the Committee give their reasons for attempting this difficult task. Briefly, they are that they felt that it would be useful in three ways: as a standard or measure, as a guide, and as a means of bringing certain information to light—a standard by which to assess new proposals, a guide to designers working on these new proposals, and a means of bringing to the notice of all concerned with housebuilding some of the results of research during the inter-war period, pending the publication of the reports of the Study Committees appointed at the instance of the Ministry of Works, which are assembling the results of that and other work in much greater detail.

The committee make it clear that they put forward their proposals as tentative standards and in no sense dogmatically, and that those standards will have to be justified by experience in practice. In another connection, the need for full co-operation between the professions and the industry in the post-war period is emphasised, and it seems to me that it applies equally in this respect. I hope that these proposals will receive the close and critical study of all architects, who can make valuable contributions from their knowledge and judgment, especially in those fields in which theory is not sufficiently developed to provide the full answer.

I think that it is worth quoting another United States document, a monograph on housing prepared by the National Resources Planning Board:

> "The ingredients of good building code requirements are facts, established by research, tests and observation, and judgment as embodied in a consensus of men possessing adequate training, experience and discrimination."

If those in the building industry with these qualifications—headed, I hope, by the architects—will supply this last ingredient, I think that many of the gaps in the first proposals will be filled, and a valuable service rendered to building by guiding new developments of technique in the right direction.

It is clear from the tone of their introduction that the Committee would welcome constructive comment, and it seems to me that these are questions of the kind which one might ask oneself:

> (1) Are there other qualities besides those chosen by the Committee for the purposes with which they were primarily concerned for which standards should be formulated?

(2) Is it possible to postulate well defined standards in the cases where the Committee have felt unable to do so such as resistance to moisture penetration ?

(3) Where numerical values are given, are they fixed at a reasonable level ?

In connection with this last point, it is worth quoting the report, which says :

" It might be thought that some of the standards have been set rather high, but we are of the opinion that where new methods are applied it will not be difficult, nor necessarily more costly, to attain these high standards provided good use is made of the variety of materials likely to be available to promoters of new constructional systems."

Again, with reference to the higher standards, it says :

" The opportunity to make these improvements while new forms are developing must not be lost."

I think that this is very important, for in the long run prefabrication or any other new method will succeed only if it produces good buildings. In conditions of emergency, they may succeed temporarily by reason of a shortage of shelter of other forms, or by cheapness or by speedy erection ; but unless they are good buildings—good enough in performance to overcome popular prejudice—I think that they will fail as a long-term proposition, which, as I believe that a greater degree of prefabrication is a logical trend, and can lead to the solution of many problems, technical and otherwise, I should regret.

MR. POTT, asked what he meant by " new materials," replied that he thought that what they referred to as new materials were to a very large extent new developments of materials which had been known before. Where new materials had been developed, as for example among the plastics, they did not necessarily lend themselves to uses other than those for which they were already recognised, at all events in the immediate future, though the field of application might be widened.

DISCUSSION

Discussion followed in the course of which MR. EDWIN WILLIAMS [*F.*] suggested that post-war development would fall into three categories ; temporary, semi-permanent or sub-standard, and permanent. Up to now they had visualised prefabricated buildings as falling into the first or second of those categories, because anything to be regarded as permanent would have to comply with the by-laws and other statutory requirements governing building construction ; it would, however, be the aim ultimately of the prefabricator to pursue a policy of making prefabrication permanent. It was very difficult to get rid of semi-permanent building. The pressure which would be brought to bear in the interests of speed and cheapness would make it difficult to maintain a high standard. It would come mostly from those who wanted to make large profits out of prefabrication—and, as the main basis of the argument for prefabrication up to now has been its speed and cheapness, one system would probably compete with another, offering greater speed and greater cheapness, and there would be less attention paid to the other qualities which mattered so very much to our own profession. He was not very worried, therefore, provided they had a clear-sighted policy, because many of the systems of prefabrication would in time cancel each other out and those that were best fitted to survive would become embedded in the changing aspects of tradition.

Architects were not used much in the inter-war period for housing, and so they had a good deal to learn about it ; in the future the production engineer might have a good deal more to say about housing construction than the architect, and the architect might find himself employed merely as a layout designer for a few shillings per house, or as a landscape architect.

MR. WINTON LEWIS [*A.*] said that it was important to remember that a nation could always do what it really wanted to do, and if we wanted to find the necessary finance we could do so. Most things hinged on finance.

He suggested that a sinking fund should be created to enable houses to be scrapped as soon as they were out of date.

MR. G. GREY WORNUM [*F.*] felt that there was one rather important side to this question which had so far not been mentioned. They all tended to talk of prefabrication as some kind of stop-gap. After the last war some 10,000 steel houses had been put up owing to the shortage of bricklayers, but when the bricklayers had arrived in sufficient quantity the erection of steel houses had ceased. It was an open secret that that had partly been due to political influence. In America, when the steel industry about 1926 had found itself without adequate markets it had started making steel houses, and that had lasted for a few years and had helped to tide the industry over.

They tended to look on alternative systems merely as stopgaps whereas, as a profession, they should look on them as the possible development of a new kind of building technique, which was absolutely necessary if they were not going to make the mistakes of their forefathers and leave a lot of out-of-date buildings as an inheritance to future generations. As a profession they might be accused of a sense of vested interest in not taking up more widely this question of a new building technique. It might affect many of them considerably to use a technique requiring, as Mr. Sheppard had suggested, merely drawings with indications for the placing of lettered and numbered units but, after all, their main purpose as a profession was to serve the public and to produce the buildings which the new Britain required.

He felt that 20 to 25 years was about as far as they should consider for the life of a building, because they did not know the requirements of future generations. As Mr. Jellicoe had said, they had to have a certain overlap in history, but an overlap of 20 to 25 years was, he imagined, quite sufficient.

He agreed with Mr. Jellicoe about the need to keep a sense of relationship with nature. They had seen in the past, as examples of so-called new architecture, large blocks of flats in concrete—the only suggestion of nature about them had been the cactus plant on the window-sill, the most unfriendly of all the products of nature ! There was no reason why they should not consider the flowering geranium, or even the aspidistra, if it made people happy, and also the use of friendly materials, as Mr. Jellicoe had suggested, and especially wood, the most friendly material that man could use.

MR. H. V. LOBB [*F.*], referring to the suggestion that architects should work in collaboration with production engineers, said that he believed that in some cases production engineers could not see the wood for the trees. The architect, with his planning experience, was often able to go into the factory and make suggestions which opened up possibilities of which the firm, producing something which might be useful for prefabrication, had not thought of.

Mr. Lobb wanted greater freedom in the issue of experimental licences so that more information could be gained concerning new and untried materials.

MR. P. V. E. MAUGER [*F.*] was appalled at the bulldozer's power. One of the greatest dangers was this flattening-out of the landscape without control by landscape architects.

Other types of building than houses would be involved in prefabrication, and notably schools. He thought it was time that the Board of Education Committee which had been researching into the planning and construction of post-war schools issued its report.

MR. JELLICOE added that whether they liked it or not they had to use bulldozers, but must use them in an economical way. They had to get on top of the machine and drive it hard and fast, but drive it in the way they wanted it driven. The bulldozer had got out of hand, but to preserve the right balance was difficult ; in five hundred years' time there might be no hills at all in England and Wales, other than those preserved for amenity. MR. A. FEJER said that they were apt to mix up the various grades of prefabrication ; there was a fundamental difference between prefabricating the whole house and having, say, half a million houses all alike, and prefabricating certain parts only and retaining freedom to plan according to varied requirements. If they took the term " prefabrication " to mean prefabrication of the parts, certain objections would be removed, there would be freedom to choose fittings ; replacements and alterations would be easier if one thought in terms of competitive standardised units rather than of whole houses designed in one piece.

With regard to dimensional co-ordination, he felt strongly that it was an advantage to have things the same size, even if the materials were different. It was easy enough to make sizes conform during the process of manufacture but it was a great inconvenience to adjust sizes later. We experienced the benefit of standardisation in the case of an electric bulb ; that kind of standardisation had come to stay.

Craft need not be eliminated by the use of machinery ; all that the machine did was to replace muscular labour whenever repetition occurred. Where there was no repetition, work could still be done by the craftsman, but anything which had to be repeated ought to be done by the machine.

MR. SHEPPARD suggested that dimensional co-ordination was something which must not be decided upon beforehand, but must be related to the particular material.

MR. R. W. BROWN [*Student*] felt that prefabrication would make us stale. He had had experience of that in the Office of Works, where he had to go to cupboard No. 1 for section B, and so on, and copy something. He completely lost interest in his work and felt hopeless.

MR. JELLICOE responded to Mr. Brown's point by saying that it was absolutely fundamental. He had put his finger on the spot. He personally felt that there would be creative work to do with prefabrication but they should have to re-orient their ideas.

In closing the discussion MR. A. C. BUNCH, the chairman, said :

He was grateful to Mr. Brown because that was what he had been wondering all the time. As architects they had come to the point when, whether they were traditionalists or modernists they realised that they had, up to a point, to accept prefabrication, but the doubt at the back of the minds of many was how the profession was to hold its own in a machine age. It could be argued that the motor car was a thing of beauty and that a house produced by similar methods could be beautiful, but if one's house was produced as a motor car was produced, and one received with it a book of words showing the spare parts that could be bought, where was the need of the architect? That, put baldly, was the problem.

They did not want to be Rip Van Winkles, so anchored in the past that when the new day came they would be passed over. They all believed in the standardisation of parts and the correlation of dimensions, so that the units used in building would fit one to the other ; but was the architectural profession agreeing that whole buildings should be prefabricated so that all that remained was to buy the parts needed and fit them together? There might be need for the adoption of such methods to meet urgent post-war needs but they were unlikely to replace the building techniques based on traditional materials and craftsmanship.

As members of the architectural profession, they had to remember and value the best that the past had produced. While the lives of British soldiers were infinitely more precious than works of architecture and art, they all deplored the wholesale destruction taking place in the world to-day. He was glad that Mr. Jellicoe had spoken of the beauty that in the old days was in Japan. Might the present madness pass and sanity return so that beauty and spiritual values could enrich life again !

He did not think they need be afraid for the future of the profession. They accepted prefabrication but they should not let it run away with them. They took heart when they considered the qualities of the traditional work with which machine-made buildings would have to compete, and he thought that they would hold their own, and that there would still be room for the architect.

He was glad that the Prime Minister had said the other day that the short period buildings erected after the war would belong to the State and to the Local Authorities. There might be a chance, therefore, of getting rid of some of them within a reasonable period, whereas if they were privately-owned, there removal would be much more difficult.

In conclusion he said that they were all indebted to those who had spoken. It had been suggested that the discussion would be heated but he had not noticed it ! They might differ in non-essentials but they all cared for the profession and wished it to contribute to the future and so help make the world a better place than it was to-day.

They had rapidly to provide housing when the men come back, and if in doing so they had temporarily to accept some doubtful things, they might do so knowing that out of the experiment might come the experience which would lead to real advancement in the future.

The living-room of the "Churchill" house

POST-WAR HOUSING IN EUROPE

A SOLUTION BASED ON PRINCIPLES OF NEW AND STANDARDISED BUILDING TECHNIQUE*

By SYLVIA WARNER [A.] *and JOSEF KALENDAR, D.Sc. (Prague)*

The Programme

In the vast programme of Reconstruction the aim of the technicians should be not only the reparation of war damage but much more than that, the creation of a new "cadre de vie" *in which the individual can develop under the best possible physical and moral conditions, with the inter-dependance of social and physical spheres as the basic principle. Bearing this in mind, a group of members of the United Nations Works and Building Committee—an informal Committee convened by the Ministry of Works and Building—set out to study the principles upon which they considered building for post-war reconstruction should be based. It was hoped to evolve a technique of construction based upon these principles which could be used to bring help rapidly to the occupied countries upon their liberation.*

It was decided that, wherever possible, purely temporary structures should be avoided, experience having proved that what is considered temporary is difficult to remove. Semi-permanent buildings should be regarded as buildings of a substantial nature capable of gradual amelioration and completion. It was hoped to evolve a system whereby emergency buildings which would be urgently required might be re-used to form the structural and insulating elements in final buildings, by this means avoiding unnecessary national expenditure on purely temporary structures.

The System

The technique of construction described in this article has attempted to fulfil these conditions. It is a completely dry system designed for industrial production, regard having been paid to the possible reorientation of the industrial population engaged on war work to housing production in the factories. By this means it is hoped to provide both employment and housing for the population.

It is a flexible system, allowing a variety both of plan and elevation and in use of materials. This is of importance, as many different sorts of buildings will be needed, different requirements of insulation will have to be met and many types of available material utilised. The application of the system is by no means restricted to housing : it may be used for schools, halls, hospitals, etc. In many cases it is realised that it will not prove possible to erect emergency single-storey buildings at once in their final position, as town planning requirements will not have been considered. As identical panels are used in the system for ground and upper floors, the single-storey hutments may be removed to their final position as soon as possible and reassembled as two-storey building.

The system is a combination of the structural frame and the load-bearing panel principles of construction. The loads are carried on a light steel frame, while the panels are at the same time self-supporting and form a rigid structure themselves, when a circle of panels is completed, without the addition of tie or cross beams. The system thus combines certain advantages of the framed structure—allowing a variety of non-load-bearing infilling materials to be used, with the possibility of thermal movement independantly of the rigid frame—with the simplicity of erection and jointing possible in a weight-bearing panel construction as the vertical frame and infilling materials are erected by simply engaging the panels one with another.

The Structural Frame

Amongst other factors, the possible reorientation of factories engaged on war production to building purposes after the war suggested metal as the most suitable structural material for post-war use. It is probable, also, that this material will be in reasonably plentiful supply. In the system the structural members are made from cold-rolled or pressed strip steel. To simplify and cheapen production and erection of parts the structural sections used are :

(*a*) Standardised to as great a degree as possible throughout the building. Apart from the jointing strip only one section is used in the system.

(*b*) Joined in a simple manner by a standard clip stamped out of sheet metal.

(*c*) Used in the form they are produced from the machine, apart from a few simple operations, as complicated secondary operations add considerably to the production time.

Design and Assembly of Panels

The standardised section used for the framework throughout the system is used to frame the wall panel on its vertical edges and strengthens the joint between panels. The overall dimensions are approximately $6'' \times 3''$. It has a cross-section consisting of three adjacent channels, the intermediate channel being open at the reverse side to the other two.

Each wall panel is provided on its two vertical edges—which are framed with the standard sheet metal section—with jointing strips, which are fitted into the inner channel of the section. These jointing strips are constructed with wedge-shaped ends adapted to engage the corresponding wedge-shaped end of a neighbouring panel, firmly to draw together by wedge-action the adjacent edges of the panels and to secure them firmly together. Thus, when assembling the panels, it is only necessary to move them for a short distance in the direction of the length of the strips to interlock them together and to enable the wedge-shaped ends of the strips to draw the panels tightly into edge-to-edge engagement. The panels only require a slight displacement upwards and need not be moved throughout their whole length. The force of gravity continually tends to cause a closer inter-engagement, so increasing the rigidity of the joint.

The jointing strips are usually arranged so as to extend upwards and downwards respectively at diagonally opposite corners of the panel, so as to allow the continuous assembly of further panels. In certain instances, *i.e.* the first and last panels of a closed circle of panels, the jointing strips may both extend in the same direction.

The first panel to be erected is preferably a corner panel, which is self-supporting and designed in one piece—normally of an L shape—so as to avoid jointing two panels together at a corner. Corner panels have jointing means similar to normal panels ; in the case of the first corner panel the joining strips should both be at the lower end of the panel, whereas in the case of the corner panel which is inserted last into a closed circle of panels the jointing strips are both at the upper end of the panel. By this means continuous assembly is possible without dislodging any previously placed panels from their position.

The jointing strips of a panel are usually arranged to protrude beyond the upper and lower edges of the panel for the purpose of anchoring the panels together in a vertical direction and to the foundations. These projections, which are either hollow or solid, fit into or over a similar projection from another panel above or below it or from the foundation block. The anchorages are effected at diagonally opposite corners of the panels in the case of buildings more than one panel high, which tends to strengthen the whole structure.

*The Patent has been presented as a gift to the Czechoslovak Government in London.

The jointing strips are arranged so that when the building is erected they are hidden within the panels, thus being protected against damage. When two panels are fitted together the two interlocking jointing strips extend within the panels throughout the length of the joint, which is itself overlapped by the jointing strips, leaving no free spaces. This makes the new connection completely watertight. The jointing strips are connected with the panel framing as one prefabricated piece. They are preferably made from sheet metal—the same material as the standard beam—so that when the panels are connected each strip, in conjunction with the neighbouring one and the vertical panel framing, forms a structural column.

The two outer channels of the standard metal section framing the vertical edges of the wall panel serve to secure the outer and inner skins of the panel in position. As has been already stated, the choice of infilling materials to be used is dependant upon local requirements and individual choice. However, certain conditions must be adhered to. It is essential for the inner skin to be insulating, light and vermin proof, whereas the outer skin must provide a satisfactory impervious finish with good weathering qualities and should also be reasonably light. The outer skin may either be fitted to the panel in the factory or, if desired, placed in position after the panels have been assembled.

It is proposed in the emergency period to use only single-storey buildings and to restrict the wall infilling to one skin—the inner skin—provided with a waterproof finish. This skin will remain in the final building as internal insulation, and may be completed externally with a variety of materials. For example, it may be desirable in certain cases to build an *in situ* brick or stone external facing.

The dimensions of the panels are also variable, although all sizes should adhere to a basic modular system. A basic module of 1 metre is suggested for the large-scale elements in the system. A normal wall panel size of 2 metres width has been chosen as being a size thought to be applicable to most types of building. In the case of multi-storey building a light hoisting apparatus is recommended for use on the site; whenever possible this is considered as a logical application of the industrial methods used in production to site erection, and greatly simplifies the erection of the upper floors. The wider, and therefore slightly heavier, panels suggested reduce the number of joints in the building and provide an economical spacing structurally for the metal section employed. A closer spacing with narrower panels would involve an extravagant use of metal. The assembly of the panels is so simple that in the emergency period, when temporary single-storey building is required and site apparatus is difficult to obtain, the panels will be easily handled by manpower only.

The corner panels are designed to be 1 metre wide in one direction and 50 cms. wide in the other, with panel joints at the end of each arm. These dimensions allow a certain flexibility in overall sizes. A corner panel could also be of a T shape for joining panels at a three-way connection or of a cross shape for a four-way connection. Connections need not necessarily be formed only at the ends of the arms, but can be arranged at the corner to allow for a future extension. When this is done the free end is protected from the weather by a finishing strip, which is provided with a normal jointing strip to interlock the free end.

Further Use of Standard Metal Section

The standard metal section used to frame the vertical edges of the wall panels is also used for the ground floor cill, wall tie beams, cross beams, roof trusses, shuttering for *in situ* concrete, etc.

Apart from the connection formed between the panels by the jointing strips, the panels are further tied together by wall tie beams. The head of the panels is so designed that when the upper and lower panels are connected together the joint between them is fully closed from outside, but a recess is formed at the inside of the panels at the joint for the reception of the wall tie beam. This is fixed to the projecting ends of the jointing strips. It further serves for receiving the floor beams and roof trusses. The method of fixing the tie beams, the cross beams and the ends of the jointing strips together is a simple one consisting of a special clip which ties all three sections together and obviates site bolting, riveting or welding.

The section, when used as a beam, may either be placed flat or on edge. When spanning across short distances it is used in its flat position, but when used over larger spans it is placed on edge to make use of the greater depth. The floor and roof slabs are to be constructed of a light structural material, preferably resin-bonded plywood, with insulation on the underside. They are supported on the outer channel of the flat beam, the inner channel of which is utilised to hold them rigidly in position.

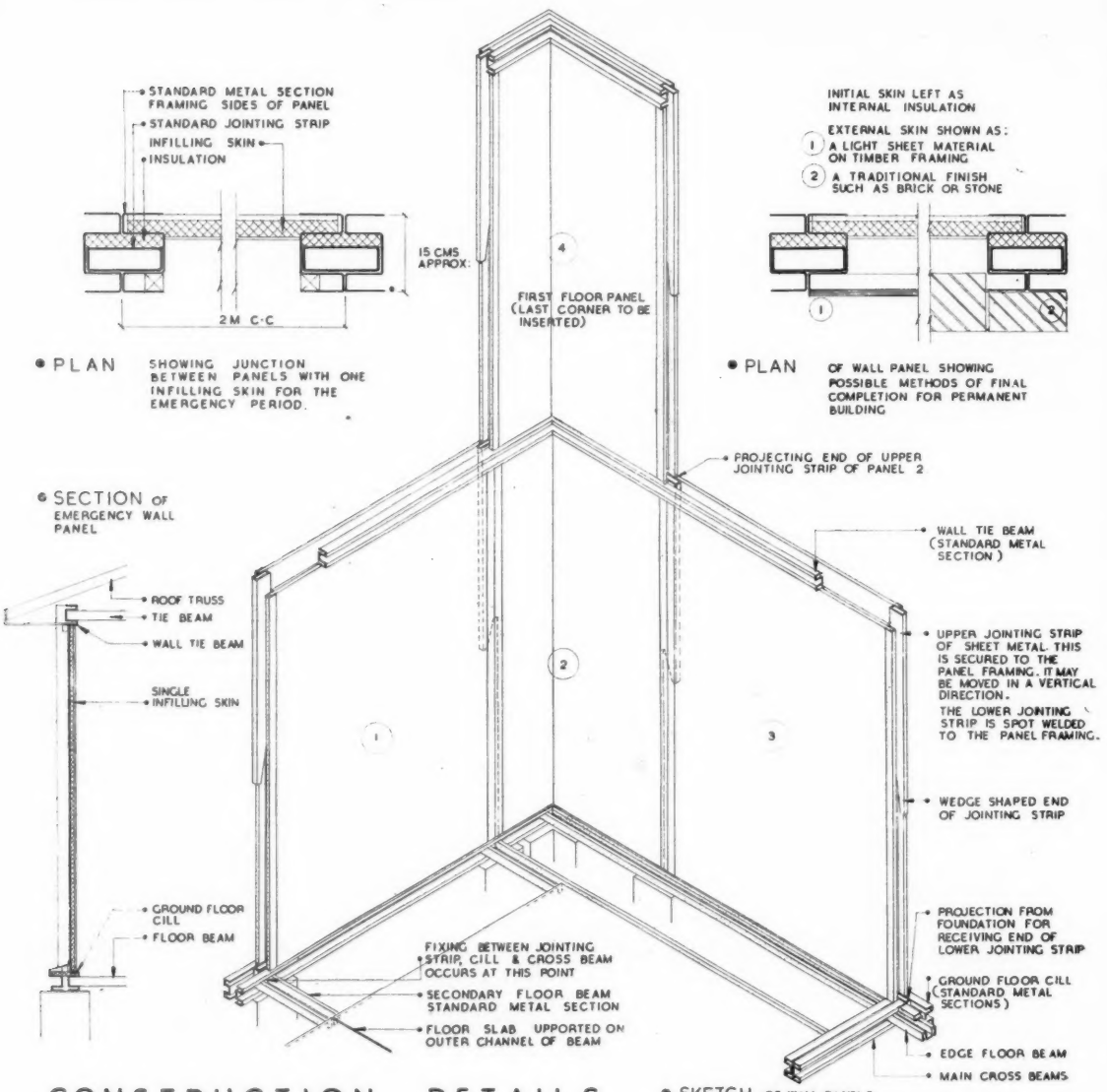
At the present time full-size panels are in process of manufacture in order to test out the technique of construction from the point of view of ease of assembly and rigidity of jointing. It is proposed in the near future to experiment further with the system by erecting a test house.

Future Possibilities of the System

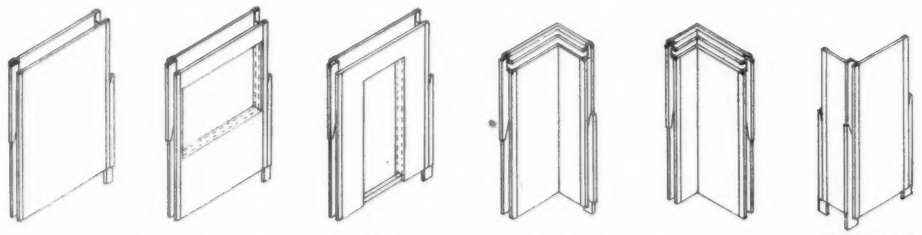
The possibilities of the technique as regards architectural treatment are in no way restricted to the simple rectangular buildings required for immediate post-war use. In these buildings the number of parts—beams, roof trusses, floor panels, wall panels, etc.—will need to be reduced to an absolute minimum for speed of production and economy.

In later years, however, it should be possible to build with the system a variety of shapes or styles of building. The possibilities for variety in the external treatment of the walls to suit individual taste and climatic and geographic requirements have already been mentioned. The designer can produce a variety of plans elevations introducing such features as projecting bays, free standing columns, unrestricted openings—for garages, covered loggias, etc.—roofs of any desired pitch, etc. He is free to design many types of window, within the 2-metre panel width, to suit the character of the building and the climatic requirements. The fear of a completely standardised and monotonous treatment of plan and elevation which is so often associated with standardisation and factory production is therefore without foundation.

It is hoped that the system may have contributed in some small measure to the development of new and standardised building technique, and that new techniques will be utilised as far as possible to avoid the disastrous consequences of the temporary building programme which followed the 1914-18 war in many European countries and to provide satisfactory long-term housing for the people.


STANDARD METAL SECTION FRAMING SIDES OF PANEL
STANDARD JOINTING STRIP
INFILLING SKIN
INSULATION
15 CMS APPROX.
2M C-C
PLAN SHOWING JUNCTION BETWEEN PANELS WITH ONE INFILLING SKIN FOR THE EMERGENCY PERIOD.
INITIAL SKIN LEFT AS INTERNAL INSULATION
EXTERNAL SKIN SHOWN AS:
1 A LIGHT SHEET MATERIAL ON TIMBER FRAMING
2 A TRADITIONAL FINISH SUCH AS BRICK OR STONE
PLAN OF WALL PANEL SHOWING POSSIBLE METHODS OF FINAL COMPLETION FOR PERMANENT BUILDING
FIRST FLOOR PANEL (LAST CORNER TO BE INSERTED)
PROJECTING END OF UPPER JOINTING STRIP OF PANEL 2
SECTION OF EMERGENCY WALL PANEL
WALL TIE BEAM (STANDARD METAL SECTION)
ROOF TRUSS
TIE BEAM
WALL TIE BEAM
SINGLE INFILLING SKIN
UPPER JOINTING STRIP OF SHEET METAL. THIS IS SECURED TO THE PANEL FRAMING. IT MAY BE MOVED IN A VERTICAL DIRECTION.
THE LOWER JOINTING STRIP IS SPOT WELDED TO THE PANEL FRAMING.
WEDGE SHAPED END OF JOINTING STRIP
GROUND FLOOR CILL
FLOOR BEAM
PROJECTION FROM FOUNDATION FOR RECEIVING END OF LOWER JOINTING STRIP
FIXING BETWEEN JOINTING STRIP, CILL & CROSS BEAM OCCURS AT THIS POINT
SECONDARY FLOOR BEAM STANDARD METAL SECTION
GROUND FLOOR CILL (STANDARD METAL SECTIONS)
FLOOR SLAB UPPORTED ON OUTER CHANNEL OF BEAM
EDGE FLOOR BEAM
MAIN CROSS BEAMS

CONSTRUCTION DETAILS



SKETCH OF WALL PANELS SEEN FROM INSIDE

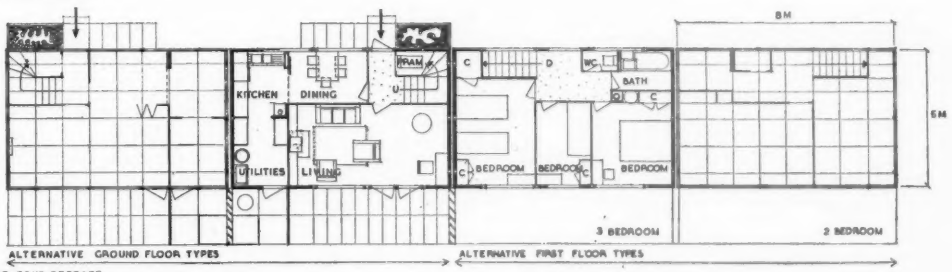
EXTERIOR WALL PANELS

THE EXTERNAL SKIN OF THE FINAL BUILDING MAY BE OF ANY MATERIAL— IF DESIRED A TRADITIONAL FINISH SUCH AS BRICK MAY BE EMPLOYED

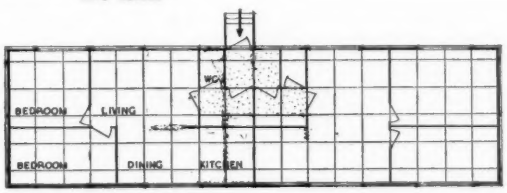
• SKETCH OF PERMANENT TERRACE TYPE OF HOUSING. EACH HOUSE IS ASSEMBLED FROM PANELS USED IN ONE EMERGENCY BUILDING WITH THE ADDITION OF FOUR CORNER WALL PANELS.

• SKETCH OF EMERGENCY HOSPITAL UNIT

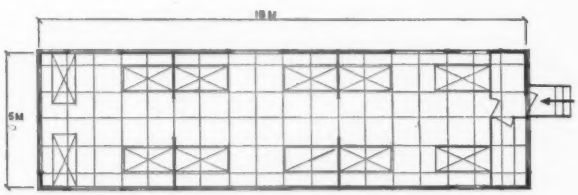
THE GROUND FLOOR PLAN MAY BE UTILISED FOR EMERGENCY SINGLE STOREY BUILDING ON THE FINAL SITE — BY SLIGHT REARRANGEMENT TWO BEDROOMS AND LIVING ROOM WITH KITCHEN & BATHROOM MAY BE PROVIDED



• PLAN OF FOUR TERRACE TYPE HOUSES



• PLAN OF EMERGENCY HOSTEL FOR TWO FAMILIES



• PLAN OF EMERGENCY HOSPITAL UNIT

TRANSFORMATION FROM EMERGENCY TO A PERMANENT TYPE OF CONSTRUCTION

106th ANNUAL GENERAL MEETING

The annual general meeting of the Institute was held at 66, Portland Place, W.1, on Tuesday, May 16, 1944, at 6 p.m., with Mr. Percy Thomas, president, in the chair.

The PRESIDENT reminded the meeting that under the provisions of the Chartered and other bodies (Temporary Provisions) Act, 1939, the holding of formal General Meetings during the war period was suspended, but in view of a strongly expressed desire on the part of a representative body of members the Council decided to apply for permission to resume the holding of the Annual Council Election and the Annual General Meeting.

The Lord President of the Council agreed to the applications and this 106th annual general meeting was arranged accordingly. Had annual general meetings been held during the war period this would have been the 110th in the series.

The object of the meeting, the president stated, was to present for their consideration the Report of the Council and Committees for the official year 1943-44.

He then formally moved the adoption of the Report.

The HON. SECRETARY (Mr. Michael Waterhouse) seconded the motion.

DISCUSSION

MR. G. G. MACFARLANE (*F.*] asked about the work of the Central Advisory Committee. Were the local authorities and other bodies responding and accepting the suggestions made by the Committee, or which would be made by the Committee? He believed they were, but it would be very interesting to know the effectiveness of the advice offered by this Committee and how it could be brought into action.

MR. A. W. KENYON [*F.*] replied that many of the local authorities were giving help. Some of the Committee's work was secret, and was insufficiently complete to offer yet to the local authorities and government; they hoped, when it was completed, that they would accept the suggestions.

MR. J. L. DENMAN [*F.*] stressed the importance of the work from a national point of view. Until the Government could produce the master plan for the whole country we should not get far. Mr. Kenyon had set his hand to a very great work indeed and they all looked forward to its results.

Building Priorities

MR. G. G. MACFARLANE [*F.*] asked about building priorities after the war. Housing and probably industrial work would come first but it would be useful to try to establish the sequence of other buildings?

The PRESIDENT stated that no chairmen of committees could answer that question.

The War Damage Commission

MR. P. V. BURNETT [*F.*] asked if the Council proposed to do anything with regard to the refusal of the War Damage Commission to accept the certificate of a chartered architect. They accepted the certificate of a chartered accountant or of a solicitor but refused to accept the certificate of a member of this Institute.

MR. L. SYLVESTER SULLIVAN [*F.*] did not think there was any answer except that we had made representations to the War Damage Commission and they flatly refused to accept any certificate except that of a chartered accountant or a solicitor. There was no redress.

MR. G. G. MACFARLANE [*F.*] said that he was on the War Damage Commission. They had every sympathy with architects; if they were brought on to the job they would help and give the right amount of money to carry on the job when they had been satisfied that the work was war damage and had been done.

MR. P. V. BURNETT [*F.*] said that he was not questioning that, he raised the point that he thought architects were being unfairly treated in that their certificates were not accepted. The blame did not lie entirely with the War Damage Commission. There was a great deal behind the question. The Council, he suggested, should have notice of the reason why the War Damage Commission declined to accept the certificate of a chartered architect and act upon it.

MR. J. L. DENMAN [*F.*] raised the question of the inspection of work by the technical officers of the War Damage Commission before the work was put in hand. They said it was not their province to make such inspections, and it rested with the employers and their advisers. In the interests of the War Damage Commission and of themselves such an inspection would be extremely helpful, and they would know then that they were not taking a course in opposition to their views, or that they were trying to substantiate a claim which afterwards would lead to controversy.

MR. G. G. MACFARLANE [*F.*] said that in his district they went round the jobs and through the specifications with the architect and agreed what was war damage.

MR. J. HUBERT WORTHINGTON [*F.*] said that in almost every job which he had had the inspector had been round before the job commenced and he had been most helpful. Very often he had visited it while it was being done.

MR. T. C. HOWITT [*F.*] said that the situation would be cleared up very shortly.

Demobilisation: Register of Professional Experience

MR. MICHAEL WATERHOUSE (Hon. Secretary) asked that notice should be taken of the work of the Demobilisation Committee in preparation for the employment of architects and assistants demobilised from the Services or released from other forms of national service. It was an extremely valuable work which he was glad to say had begun. The Register was not confined only to people returned from the Services, but it would also be available to registered architects who were not members.

The register of members of the Institute would be an immense help to the permanent staff, the president and the honorary officers of the Institute, especially if kept up to date, in that it would form a complete record of each man's professional life and professional activities.

Exhibition of Contemporary British Architecture

MR. HUBERT LIDBETTER [*F.*] referred to the exhibition of Contemporary British Architecture to be held this year. The R.I.B.A. had staged many exhibitions during the last few years but he did not remember any exhibition which had given the Institute's idea of what was best in contemporary architecture. It was going to be a difficult matter to get sufficient material at the present moment but members would see by the note in the *Journal* that the rules had been made as free and easy as possible.

Salaried Members' Committee

MR. H. L. BARTON [*A.*] said that there had been three meetings of the Salaried Members' Committee since the last report. He thought there was work for more meetings than that. It was important that there should be a report on present conditions so that it could be acted upon with effect.

MR. P. K. HANTON [*F.*], (chairman of the Committee) said that they had got to the stage when they had proposals much more precise than the previous salary scale. These proposals were almost ready and they hoped to have the final meeting of the sub-committee that week. When they had the salary scales worked out they proposed to take the Official Architects Committee into consultation. They were looking forward to after the war prices but it was very difficult because they did not know what conditions would be in force then.

Craftsmanship

MR. G. G. MACFARLANE [*F.*] said that he had noticed in the War Damage Commission work that workmanship was going downhill and war weariness had begun. They had to try to help raise the whole morale of workmanship in Britain. The

war damaged houses needed far more care in repair than ordinary repair jobs, and they were not getting it. These hastily done repairs were going to open up and give trouble and unless the Commission were very generous they would not pay for the second repairing unless it was new war damage. The health and well-being of many of the poorer classes who lived in these miserable houses, would suffer unless a high standard of work was maintained.

He thanked the Education Committees for their work. Education was part of the key to the problem. The education of the young men was suffering, they were not being apprenticed, they were being paid big wages while they were young, they were coming into the trade and were doing bad work, learning as they go at the expense of the small properties.

He made one suggestion, inspired by Eric Gill. Get to know the craftsmen and have that feeling of personal interest and friendship not only with the foreman and clerk of works but with the actual craftsman, getting an entirely new feeling ; the craftsman liked the job better and he became more skilled. That, he said, was the way he would attack the future as regards relation to workmen. He did not see any sign yet of our being friendly with the trade unions ; that was left to the builder, and he thought it was right the builder and not the architect should deal with the unions, but they could get a direct interest with the craftsman on the job and give him a new feeling for it.

Council Nominations

Mr. Macfarlane raised one point of procedure with reference to nominations for election to the Council. The names came from the Council first of all, with their qualifications, about a fortnight before this meeting, then at this meeting other unknown names were put forward and went to the electorate. Was that, he asked, perfectly fair to the new blood trying to get into the Council ?

Trade Unions and Craftsmanship

Mr. Henry Braddock [*A.*] urged that we should make a better contact with the trade unions. They had done a very fine job with regard to the raising of the standard of living but it was time that the professional men should ask them to increase now their standard of trade skill.

The President reminded members that the whole subject of apprenticeship and training had been the subject of committees for the last three years and on those committees the trade unions and the Institute were strongly represented. The findings of these committees had already been produced to the Ministry.

Mr. Basil M. Sullivan [*F.*] said that the Cambridge Chair of Building had been sponsored by the National Federation of Building Trades Employers and would be closely concerned with the question of craftsmanship.

Mr. J. Hubert Worthington [*F.*] : After the last war we had had a number of meetings for building operatives. He had talked to one of them and it was a most stimulating audience. There was a packed house of every possible trade and they had had a very good evening. He said that he did not care a button about capital or labour, but was an architect, and all he wanted was good craftsmanship. He hoped we should have something of the same sort after this war.

Mr. Thomas E. Scott [*F.*] assured members that steps were being taken to raise the level of craftsmanship in the industry. The Advisory Council of the Ministry of Works had authorised the setting up of a Building Apprenticeship and Training Council on which body he represented the Institute and the Council. All branches of the industry were willingly co-operating. It was intended that only those who had passed through an approved course of apprenticeship, in as many cases as possible preceded by full-time training in a junior school of building, would be admitted to full membership of an industry as craftsmen. One could only hope that, by the time the building industry had reached a peak, there would be a steady flow into the industry of properly qualified apprentices and craftsmen.

Mr. Stanley C. Ramsey [*F.*] said that on jobs he asked the contractor to allow him to address the men to give them some idea of what he was after. He found it aroused extraordinary interest and that the men were keen to discuss craftsmanship and technical details with him.

Mr. P. V. Mauger [*F.*] hoped that attention would be paid to the teaching of architectural appreciation in technical colleges, the councils of which were quite ready to receive the idea that all engineering and craft students should know something about their surroundings, the relation of buildings to landscape, and so on. In schools with which he was connected they were trying to arrange courses of lectures, rather than formal classes, an amenity rather than a duty, and fitted into the time table so that all students would have a chance of going to them and know that they would enjoy them.

Mr. Basil M. Sullivan [*F.*], chairman of the R.I.B.A. Committee on the Teaching of Architectural Appreciation in Schools, said that this committee was formed with the object, not of teaching architecture but of teaching the people to use their eyes. It was thought that that could best be done by getting at the children in the schools. To do so the teachers must be educated, and the conference in January had been called to get the education authorities to see the value of this. They were now endeavouring to see the President of the Board of Education.

Mr. J. Hubert Worthington [*F.*] said that he had been asked to address the staff of a large technical college. He gave them a straight talk on architectural appreciation. It was one of the largest technical colleges in the country and practically every member of the staff was present.

Reviews of Buildings

Mr. G. G. Macfarlane [*F.*] suggested that the question of the public becoming interested in architecture was a very ticklish one. He knew an architect who published a book at the same time as he finished a famous building which was thrown open and used by the public. In about six weeks he had over 40 reviews of his book but there was not one comment on his building. Suppose, he asked, that the newspapers reviewed our buildings as they did our books, would it be advertising ? It would bring our buildings to the notice of the public and would help the whole of architecture. Could we do something to arouse national interest in architecture by retaining columns in the newspapers and having the new buildings reviewed in an intelligent manner ?

The President suggested that Mr. Macfarlane was opening up a dreadful prospect, to which Mr. Macfarlane replied that they must face up to it !

Mr. A. G. Macdonald [*F.*] referred to the Architecture Club's work and the President referred to Professor Reilly's articles in the *Manchester Guardian*.

Mr. Colin Penn agreed with the member who thought that the R.I.B.A. should bring subjects normally regarded as " sticky " ones into public discussion and have something to say upon them. He did not think we would get anywhere among ordinary people until we did that sort of thing ; he had particularly in mind the question of housing.

The Housing Committee

The Housing Committee had held 11 meetings but as far as the people outside the Institute were concerned, or even the ordinary member inside the Institute, there was not very much to show for their activities. He suggested strongly that the committee should consider some action which would bring the influence of the Royal Institute on the question of housing before the public in a way which the public would notice. He had a number of times recently been asked to speak on the question of housing to various sorts of lay organisations, trade union branches, and similar bodies connected with the ordinary man in the street, and had found intense interest in the subject of housing and great anxiety to know what the expert had to say on various technical details. The R.I.B.A. could quite well say something about the " Churchill " house. There were one or two things

about the plan which he was surprised to see had passed so far without comment. It might arouse controversy, but that would not be a bad thing.

He had felt somewhat puzzled on reading the report of the conference between the R.I.B.A., the Building Societies Association, and the National House Builders Registration Council, and several other members to whom he had spoken felt the same as he did. The ordinary person who had had some experience of building societies did not look upon them with any particular favour, but it seemed as though the R.I.B.A. went out of its way to proclaim a sort of sympathy with the building societies which seemed to him personally to be quite unnecessary. The building societies were perfectly capable of looking after themselves.

Finally, he asked the Council to consider holding general meetings once more as they used to be held before the war.

The PRESIDENT replied that they had a programme of general meetings arranged for the next session. The report of the Housing Group of the Reconstruction Committee was a very fine document, and although it had taken a long time it had been worth it. The Council had already given instructions for it to be printed in an attractive pamphlet and to be published.

MR. A. W. KENYON [*F.*] said that if he tried to answer all the queries with regard to the " Churchill " house he would be here a long time. He would have to leave it to the comments of the general public and of architects as well.

MR. A. L. ROBERTS [*F.*] hoped that as soon as the Housing Report was published it would be used for the purpose of discussion with local authorities and other bodies. Last night he had spoken to a Chamber of Commerce and had chosen as his subject the national plan in housing. His audience were so carried away by the information he gave them that they told him they wished to make a contribution to the funds of the Central Advisory Committee to assist the completion of that scheme.

The PRESIDENT said that the Housing Report was to be sent free to all local authorities.

MR. STANLEY C. RAMSEY [*F.*] said that he wished to correct a mistaken idea with regard to the conference between architects and house builders and the building societies. It was an extremely difficult conference and he did not think any one of the three parties was satisfied. As Mr. Penn had said, the building societies could well look after themselves; but they did not want the conference, and he did not think he was exaggerating when he said that they came with extreme scepticism and the house builders only came because the building societies were there; but this problem could never be solved unless the three got together. The reception in the Press had been extraordinary; nine London dailies had long articles concerning it, five of them leading articles; 90 provincial papers gave leading and other articles and some 300 other papers of a lesser kind reported it.

Why were the public so interested? He suggested it was because they believed that architects should have a share in this work, but they were a little nervous and suspicious of what they considered to be the idealistic and impractical nature of the profession. The public believed that the building societies performed a useful function but were a little suspicious of their direction. which had been, in the main, financial; they believed the house builders should put up the houses but they also believed they needed guidance.

Income Tax Assessments

MR. B. E. DIXON [*F.*] understood that certain professions other than architects had obtained a concession from the Inland Revenue authorities that their assessments should be based on a three years' average. He believed that most professions at one time enjoyed that privilege. Could the Institute press for the inclusion of architects in that group?

MR. T. H. NICHOLSON (Saffery & Co., the R.I.B.A. Auditors) said that there was a proposal with regard to authors and actors but it had not come before Parliament yet, and he doubted whether it would apply to architects.

The PRESIDENT then put the Report to the meeting.

The resolution was carried unanimously.

The PRESIDENT stated that the list of attendances at the meetings of the Council had been laid on the table and would be printed in the next issue of the Journal and also sent out to members with the Voting Papers.

He moved that a hearty vote of thanks be accorded to Mr. J. D. Hossack [*F.*] and Mr. Ronald Topham [*A.*] for their services as Hon. Auditors for the past year.

The vote of thanks was carried by acclamation.

The PRESIDENT stated that Mr. Ernest B. Glanfield [*F.*] and Mr. Ronald Topham [*A.*] were both eligible and willing to be nominated as hon. auditors for the current year and moved that they be so nominated.

This was agreed.

Attendances at Council Meetings [Session 1943-1944]

(UNLESS OTHERWISE STATED THE MEMBERS' ADDRESSES ARE IN LONDON)

(9 Meetings)

President: †Percy E. Thomas (Cardiff), 8.

Vice-Presidents: A. C. Bunch (Warwick), 8; Stanley Hamp, 8; C. G. Soutar (Dundee), 0; †J. Hubert Worthington (Manchester), 8.

Honorary Secretary: Michael Waterhouse, 7.

Honorary Treasurer: L. Sylvester Sullivan, 9.

Members of Council: Prof. Patrick Abercrombie, 1; Victor Bain (Leeds), 5; Percy J. Bartlett (Nottingham), 5; A. C. Bunch (Warwick), 8; C. Cowles-Voysey (Winchester), 6; C. Lovett Gill, 8; Stanley Hamp, 8; G. Noel Hill (Manchester), 1; Dr. Charles Holden, 9; T. Cecil Howitt (Nottingham), 9; L. H. Keay (Liverpool), 0; Edward Maufe, 6; J. Nelson Meredith (Bristol), 4; Howard Robertson, 7; C. G. Stillman (Chichester), 4; John Swarbrick (Newcastle-on-Tyne), 8; E. P. Wheeler (deceased), 1; G. Grey Wornum, 3.

Associate Members of Council: R. A. Duncan, 6; Prof. W. G. Holford, 2; R. D. Manning (Thetford), 1; Anthony Minoprio, 8; Norval R. Paxton (Leeds), 5; E. Berry Webber, 5.

Licentiate Members of Council: Stanley A. Heaps, 8; C. Bertram Parkes (Birmingham), 3; S. Lunn Whitehouse (Birmingham), 2.

Past President: H. S. Goodhart-Rendel, 0.

Representatives of Allied Societies in the United Kingdom or Eire: Northern Province of England: R. Norman Mackellar (Northern Architectural Association), 0; H. T. Seward (Manchester Society of Architects), 8; T. M. Alexander (Liverpool Architectural Society), 9; C. Oliver (York and East Yorkshire Architectural Society), 9; Alderman Wm. Illingworth (West Yorkshire Society of Architects), 0; Stephen Welsh ffield, South Yorkshire and District Society of Architects and Surveyors), 3. *Midland Province of England:* Cyril F. Martin (Birmingham and Five Counties Architectural Association), 9; J. O. Thompson (Leicester and Leicestershire Society of Architects), 7; H. F. Traylen (Northamptonshire, Bedfordshire and Huntingdonshire Association of Architects), 2; H. H. Dawson (Nottingham, Derby and Lincoln Architectural Society), 6; Theo G. Scott (East Anglian Society of Architects), 9. *Southern Province of England:* John Challice (Devon and Cornwall Architectural Society), 9; J. Ralph Edwards (Wessex Society of Architects), 8; J. T. Saunders (Berks, Bucks and Oxon. Architectural Association), 7; A. E. Geens (Hampshire and Isle of Wight Architectural Association), 6; Herbert Kenchington (Essex, Cambridge and Hertfordshire Society of Architects), 9; John L. Denman (South-Eastern Society of Architects), 8. *Allied Societies in Scotland:* L. W. Hutson (Glasgow), 7; J. R. McKay (Edinburgh), 6; A. G. R. Mackenzie (Aberdeen), 2; John Wilson (Edinburgh), 0. *Allied Societies in Wales:* Ernest E. Morgan (South Wales Institute of Architects), 8. *Allied Societies in Ireland:* W. Howard Cooke (Royal Institute of the Architects of Ireland), 0; Frank McArdle (Royal Society of Ulster Architects), 2.

Representatives of Allied Societies in the British Dominions Overseas: Gordon McL. Pitts (Royal Architectural Institute of Canada), 0; L. Sylvester Sullivan (Representative in United Kingdom), 9; Prof. A. S. Hook (Royal Australian Institute of Architects), 0; W. H. Ansell (Representative in United Kingdom), 1; H. L. Massey (New Zealand Institute of Architects), 0; Howard Robertson (Representative in United Kingdom), 7; D. S. Haddon (Institute of South African Architects), 0; E. Berry Webber (Representative in United Kingdom),

5; S. H. Parelkar (Indian Institute of Architects), 0; A. J. A. Illingworth (Representative in United Kingdom), 4.

Representative of the Architectural Association (London): A. F. B. Anderson, 9.

Representative of the Association of Architects, Surveyors and Technical Assistants (now the Association of Building Technicians): V. L. Nash, 3.

Chairman of the Board of Architectural Education: ‡Stanley C. Ramsey, 4, subsequently §Basil M. Sullivan, 2.

Chairman of the R.I.B.A. Registration Committee: Darcy Braddell, 8.

Chairman of the R.I.B.A. Official Architects' Committee: *J. H. Forshaw, 3.

Representative of the R.I.B.A. Salaried Members' Committee: *W. E. Brooks, 7.

† Marked thus were appointed at the first Meeting of the Council. Possible attendances, 8.

* Marked thus were appointed after the first Meeting of the Council. Possible attendances, 8.

‡ Possible attendances 7. § Possible attendances 2.

Correspondence

Trinity College,
Cambridge.
11.3.44.

To the Editor, JOURNAL R.I.B.A.

SIR,—Mr. Theodore Fyfe's kind review of the second edition of my *Handbook of Greek and Roman Architecture* in your February issue contains one mis-statement too serious to overlook. He writes: "The result is that the whole of the previous text and illustrations have been left as they were; the only additional material consisting of footnotes in square brackets, suitably related to Preface, Bibliography and Index." The facts are stated in my Preface (p. xi): "I have reluctantly left the illustrations unchanged, but I have tried to revise the whole text and the Chronological Tables in the light of recent research. I have made a great many substantial charges, and I have justified these, where necessary, by additional footnotes, distinguished by square brackets."

Entirely fresh matter has, indeed, mostly been consigned to notes at the end of the chapters, but I have made a serious effort to correct all statements made in the first edition which were no longer in accordance with the latest evidence, and in this way I have made two or three hundred substantial changes in the text.

Yours, etc.,
D. S. ROBERTSON [*Hon.A.*].

Mr. Theodore Fyfe writes:—

After seeing my review, Professor Robertson very kindly wrote me that he would have to publish a letter in his own defence. I am therefore aware of his real ground for criticism, that I had stated there were *no* changes in the text. For this I apologise wholeheartedly and freely admit that I had read the first paragraph of the Preface to the Second Edition too hastily. I feel, however, that (so far as the text is concerned) the expression "substantial changes," in the Preface, is not justified by their *extent*, though I could fully agree that it is justified by their *kind*; and I think it is unfortunate that many of them have been inserted without any indications that they are there. To me, this point is important, as subsequent correspondence with Professor Robertson revealed that he considered his first edition had been entirely superseded by his second. Quite certainly in many ways it has, but when the great bulk of the text and the whole of the illustrations in a work of research have remained unaltered, it is unfortunate for an architectural student who happens to possess a first edition and has too many other book commitments to buy a second one, not to have the benefit of *all* the information that can be given by the author about changes; a very simple matter in relation to this particular point, as a list of page references in the Preface would have been sufficient. I know that Professor Robertson does not agree with me about this, but that does not alter my view, though I fully admit that it could not have been made applicable to the many alterations and additions in the Chronological Tables; to which I should have drawn attention in my review.

ST. PAUL'S WATCH

The St. Paul's Watch still needs recruits. The following letter was addressed to the President by the existing members of the Watch, and is published as an appeal to other architects to join.

St. Paul's Cathedral,
E.C.4.

The President,
Royal Institute of British Architects,
66 Portland Place, W.1.

DEAR MR. PRESIDENT,—You will be aware that following a request of Mr. Godfrey Allen at the outbreak of war, an appeal was issued from the R.I.B.A. to its members to join the St. Paul's Watch. In consequence of it some eighty volunteers were obtained, numbers of whom have served through all the enemy attacks on London from 1940 to the present time. Now, owing to illness, the flux of time and the calling up of the younger men, their numbers have declined to about 30 and we need more to bring the Watch up to the strength necessary to deal with present and future requirements. We, therefore, venture to appeal to you for your help.

Volunteers give up one night each week—more if they desire—which they spend at the Cathedral. Subsistence allowance is paid and bunks, blankets and messroom accommodation, etc., are provided. The necessary drill and geography of the building are taught to the various teams making up the Watch. If your members would like to know more about the Watch and its work, Mr. Allen, the Surveyor to the Fabric, who is in charge of the organisation, would arrange for it to be given if they call at his office in the Cathedral or telephone him (City 2912) between 10 a.m. and 4 p.m. on any day except Saturday and Sunday.

We are conscious that we are asking for much, but as it may correctly be said that the volunteers which the R.I.B.A. was instrumental in obtaining played an important part in saving the Cathedral from destruction during the enemy attacks on London, we feel sure you would desire that aid to continue until victory and the safety of Wren's masterpiece are secured.

Yours sincerely,

THOMAS H. BARROW, Sector Capt.
HORACE FARQUHARSON, Sector Capt.
BASIL M. SULLIVAN, Sector Capt.
R. N. WAKELIN, Sector Capt.
E. S. W. ATHERTON.
H. A. N. BROCKMAN.
ERIC G. BROUGHTON.
A. S. G. BUTLER.
P. B. DANNATT.
CYRIL A. FAREY.
J. D. M. HARVEY.
ARTHUR B. HAYWARD.
H. DUNCAN HENDRY.
RONALD P. JONES.
ALISTER G. MACDONALD.
D. M. MICKLETHWAITE.
DENZIL NIELD.
A. L. N. RUSSELL.
SIDNEY TOY.
RALPH TUBBS.
A. P. WARREN.
G. H. WENYON.
BERNARD T. R. WIGGINS.

SCALE OF ARCHITECTS' FEES FOR SPECULATIVE BUILDERS' WORK FOR A MINIMUM OF TEN HOUSES

This scale of fees, which is printed on pages 755-6 of the 1939-1940 Kalendar, has been formally withdrawn by the Council as being inapplicable to present-day conditions. The Housing Committee have been asked to consider the question of whether a revised scale should be issued.

A LOAN COLLECTION OF PHOTOGRAPHS

FOR THE USE OF LECTURERS AND FOR EXHIBITION

The R.I.B.A., in collaboration with the Housing Centre, and with the aid of a grant from the Council for the Encouragement of Music and the Arts (C.E.M.A.) has formed a collection of photographs for hire, which should meet a large and growing need.

Throughout the country people are lecturing, giving informal talks, or leading discussions on architecture, post-war building, housing and planning, with inadequate illustrative material. All the institutions that attempt to serve these lecturers and discussion groups are constantly asked to provide photographs, but hitherto nothing has existed to meet the demand. Something has been wanted which is less formal, and certainly less expensive than the several excellent big exhibitions, something also that is more "handy," easily carried in a brief case, easily pinned up in an army hut, village hall, or schoolroom, or easily passed round a group. Something also that is not in any fixed form, but which can be used as the raw material of illustration to any talk or lecture. There is convincing evidence of this need which the R.I.B.A. collection is now able to satisfy.

The collection consists, at present, of about 250 full-plate (6 ins. by 8 ins.) photographs mounted on cards. They are equally suitable for use in an epidiascope, for passing round an audience, or for pinning upon a wall.

The collection is not a static or fixed exhibition, but will be constantly increased and improved by the addition of new and better subjects and prints. All receipts from hiring charges, after basic expenses have been paid, will be used as a development fund to build up and improve the collection, and to keep it up-to-date.

Four complete sets are available for hire through the R.I.B.A. and the Housing Centre, and the Army Bureau of Current Affairs has taken five complete sets for circulation to Army lecturers.

It is proposed to provide 35 mm. film strips of all the photographs, which can be sent to borrowers outside the London area to enable them to make their choice visually. Lists of all prints can be sent to enquirers.

CHARGES

The following are the charges and general rules :

1.—A service charge of 5s. will be made on all loans up to 50 photographs, plus 2s. 6d. for each additional 25 photographs. A rent charge of 1d. per print per week is made in addition.

2.—Thus : (I) A borrower taking 40 photographs for one week pays 5s. service charge plus 3s. 4d. rent charge, total 8s. 4d.

(II) A borrower taking 55 photographs for a fortnight will pay 5s. plus 2s. 6d. service charge, plus 9s. 2d. rent charge, total 16s. 8d.

3.—All loans are made for one week except where express permission has been given for a longer period, and this must be obtained in advance.

4.—No extension will be made to loans beyond the period originally agreed when the loan was first made.

5.—Postage is paid by the sender each way.

6.—Borrowers are fully responsible for the photographs while in their possession, and for their safe return. They will be held liable for repairs for damage caused while photographs are in their possession.

7.—The R.I.B.A. and the Housing Centre, at their discretion, reserve the right to refuse a request for the hire of photographs for any reason that they may deem advisable.

8.—Borrowers' request for particular prints will be met as far as it is possible to do so from the stock available at the time the order is fulfilled. In stating their needs, borrowers are requested to name alternatives.

The following are the sections which will ultimately be comprised in the collection. They are not intended to be complete in themselves as exhibitions, but are subject indications only. In any one section there may be many photographs which substantially illustrate the same thing. Also photographs to illustrate housing will be found in the town planning sections as well as in the specifically housing sections, etc., etc.

Planning

Town and country planning generally. Regional planning and country planning generally. Town planning (including plans, aerial views of towns and villages). Roads and streets. Bridges. Parks and open spaces in towns, town playground. Allotments. Rural preservation, national parks.

Public Buildings

Shops and stores. Transport buildings. Industrial buildings, factories. Welfare buildings, hospitals, clinics, etc. Restaurants, cafés. Swimming baths, including pit-head baths. Concert halls, theatres and cinemas. Community centres, village halls. Exhibition buildings and exhibitions.

Religious Buildings

Churches, chapels, etc.

Education Buildings

Schools. Colleges, universities. Technical schools. Museums, art galleries. Libraries.

Housing

Housing, historical. Slum housing. Contemporary housing generally. Small houses and bungalows (shown individually or in groups without obvious reference to other classes, such as garden cities, construction, etc.) Flats (do.). House construction, including prefabrication. Garden cities and suburbs. House and flat gardens. Old people's houses. Farms, farmhouses, agricultural buildings. Individual house rooms.

Recent Experience in the Design of Welded Frames

By A. RAMSAY MOON, B.A., M.Inst.Struct.E., M.I.W.

An abstract of the lecture at the R.I.B.A. Architectural Science Board Meeting on 5 February.

What does welding mean to the architect? What does it matter to the architect how the steel framework of his building is joined together?

The significance of welding is not that it offers a different—perhaps better, perhaps more economical method of making joints in steelwork—its interest is in that it presents the architect with a structural material which he as an architect can use effectively for the first time. The masterpieces of work in metals throughout the ages have all involved the manipulation of the metal with the aid of heat and the joining of the parts by means of welding.

When steel came to be used for building the pieces were too large to be heated in the fire for forge welding, and so the practice of drilling holes and bolting or riveting the parts together was devised. The necessity of overlapping the parts to be joined involves serious limitations on the shapes which can be used, and the range of steel sections made for riveting does not lend itself to the production of attractive outlines in the steel structure

In looking at a riveted building framework we are conscious of the limitations rather than the possibilities of steelwork as a structural material. The members are severely straight and of awkward shapes, the connections are cumbrous and frequently unsightly.

Welded steelwork presents no such limitations. The size and shape of the members and joints can be determined in relation to the function they have to perform.

There are several characteristic features of welded construction. The material can be used in any thickness and any shape; the joint can always be made the full strength of the pieces joined without appreciable increase in thickness or size at the joint; the material can be placed so that it may be used to best advantage both for economy and appearance; the weld is essentially a rigid joint and the tendency will be to design the welded structure as a rigid framework. Designed as such, a rigid framework tends to be economical in steel and to express the inherent character of steel as a building material. The dominant characteristic of steel as a building material is its strength. It is also fairly expensive. In nature steel has rather the function and character of a spider's web than of the tree from the forest. A well-designed steel structure will give an impression of lightness and slenderness. On account of its cost we would wish to see each cubic inch of steel in the structure working up to its full allowable load and so placed that it is carrying that load to best advantage. In a well-designed welded structure we can approach fairly near to this ideal, and in as much as we do approach it the steelwork starts to develop character.

In a simple building framework welding enables a small but useful saving, usually about 10 per cent., to be made in the weight of steel. This is achieved by the reduction in the amount of connection material and, where convenient, by using hollow columns which have a better radius of gyration than the ordinary rolled sections. A hollow column may save from 10 per cent. up to 40 per cent. in weight of steel as compared to the ordinary rolled section. The hollow shaft may either be two channels welded by their toes or two angles placed so as to form a square box and welded at the corners, or it may be a cylinder. A 20-inch diameter cylindrical column with a $\frac{3}{8}$-in. steel shell filled with vibrated concrete will carry the same load as a 40-in. rectangular reinforced concrete column. For such an arrangement the ratio of weight is 1 to 1.5, the area 1.25 to 5, and the cost 1.3 to 1.85. The possibility of polished stainless steel columns with a very thin shell filled with concrete may well be attractive.

In the simple building structure the appearance of welded steelwork is quite similar to riveted work except that there is not so much connection material. There will probably be square column shafts and the absence of bracket details will simplify the enclosure of the steel. If the beams and columns are in straight lines it is possible to take advantage of the rigidity of the welded joints and design the beams as continuous, and the saving in steel is increased from 10 per cent. to 20 per cent. or more as compared with freely supported riveted steel. When the span between columns is long it is specially advantageous to make the beams continuous because then the depth of the beams can be made substantially less.

When steelwork is to be enclosed the principal advantages of using welding are reduced weight, and absence of protuberances, and in the case of continuous frameworks, reduction in the depths of the beams. From the architectural point of view these are useful factors though not necessarily very important. It is when the steelwork may be left exposed that welding becomes really interesting.

The conventional riveted roof truss was never a thing of beauty. Its multiplicity of angle members with their bulky gusset plates obstruct the light and make a satisfactory interior decoration impossible unless the trusses are covered up altogether. With welded roof trusses there need be no gussets and the members can be made smaller since there is no need to allow for rivet holes, but the general shape remains the same. During several years the tendency has happily been to get rid of roof trusses and to use roof frames, and this is where welding comes into its own. For a pitched roof the frame will likely take the form of a three-pin arch—a frame pinned at the apex and at the supports. The frames will be deep at the eaves and narrow at the apex and the springing. Built up of flat plate flanges and a tapering plate web the shape of the frame is simple and pleasing, the surfaces are plane and the lines continuous. The shape of the frame expresses the function. If the roof is flat or nearly so, it is probable that a two-pin frame will be more effective. In this case there will be substantial bending moments at the centre of the span and at the eaves and the shape of the frame will conform to this condition, being deeper at these positions and shallower at the points of contraflecture and at the foundations. By making the outline of the frame follow the shape of the bending moment diagram, a structure is obtained which is both economical and pleasing to the eye.

When the supports are solid or when springing from steelwork below, the roof frame may be made a continuous rib of uniform depth conforming as nearly as practicable to the line of thrust. When this can be done a very light frame results. Owing to the shape of the roof frames it is usually uneconomical to make them in riveted steelwork unless they are very large, but with welding the frames are easy to construct and reasonably economical. The roof frames are usually slightly heavier than roof trusses on columns but the improvement in appearance is such that in the future roof trusses will be considered old-fashioned and unacceptable in anything but the simplest store buildings.

For supporting saw tooth roofs the trusses can be replaced with rigid jointed joist frames. When these are made integral with the columns they form what is known as tree form construction and give a clean and interesting effect.

In bridgework and heavy plated structures, the large smooth surfaces of welded construction are outstandingly superior to riveted structures in appearance and in such structures the full advantages of welded construction are achieved. In a riveted plate girder of long span, the flanges are made up to two angles and a pile of plates—in the welded girder the flange is usually one heavy plate. The elimination of the angles, which join the flange to the web, means that the mass of the metal is concentrated as far as possible from the neutral axis of the girder and so is used more effectively. The saving in weight may be as much as 25 per cent.

In light military bridges as in most military equipment the use of welding is now taken for granted. It has led to remarkable savings in material and labour. The number of welders in the country is three times what it was when the war started. There has in the past been a reluctance on the part of steel fabricators to supply welded building steelwork—presumably on account of the possible effect on the value of the riveting plant and equipment already available—but now there is ample plant available and probably more welders than will be needed in post-war industry, there should be no great difficulty in persuading the steel constructors to lift the ban from welded steelwork. By doing so they will give their material to the architect in a form in which he can use it to better advantage and ultimately lead to the use of steel not merely as an unsightly carrying framework which has to be covered up, but as a structural material with an architectural significance of its own.

Review of Periodicals

1943-44—II *(continued)*

DECORATION, DETAILS, CRAFTS, FITTINGS

ARCHITECTURAL REVIEW, *1943 Dec., pp. 147-50 :*
Ornament in modern architecture, by Sir Kenneth Clark, Director, National Gallery. An examination of the reasons for the absence of ornament in modern design, unprecedented historically. The need for symbolic illustration has gone with the rise of respect for " the measuring mind." A witty, lively and important article : illustrated.

TECHNOLOGY REVIEW (M.I.T.), *1943 Nov., pp. 27-31 :*
Development of Yale lock. Growth of mechanisation. Essay on industrial design history, by Sigfried Giedion.

JNL., AMERICAN SOCIETY OF ARCHITECTURAL HISTORIANS, *1943 July, pp. 21— :*
The tradition of polychromy and paint of the American dwelling from colonial to present times, by Roger Hale Newton.

ARCHITECTURAL RECORD (N.Y.), *1943 Nov., pp. 83-6 :*
Household cupboards. Time-saver standards.

JOURNAL R.I.B.A., *1944 Jan., pp. 63-5 :*
Open-grate efficiency and domestic heating and ventilation, by J. S. A. Young. Article describing a new design for domestic grate : the Benllech Hearth.

ARCHITECTURE (general) ; EDUCATION

SOUTH AFRICAN ARCHITECTURAL RECORD, *1943 Oct., pp. 227- :*
Architectural Conference, University of Witwatersrand. Papers and discussion on community planning (with frequent reference to U.S.S.R. and U.S.A.) ; housing ; health aspect of housing ; building industry organisation and the architect in society. Speakers include N. L. Hanson, W. D. Howie, R. Kantorowich, D. S. Haddon. Illustrations of Planning and Housing Exhibition.

JOURNAL OF THE R.I.B.A., *1944 Feb., pp. 79-83 :*
Architectural appreciation : a talk by Mr. C. Williams-Ellis [*F.*] to the Conference on teaching of architectural appreciation in schools, at the R.I.B.A., 6 January.

CALIFORNIA ARTS AND ARCHITECTURE (Los Angeles), *1943 May, pp. 36-7 :*
Architectural training in three dimensions : article by Prof. C. M. Baldwin, Univ. S. Calif. Illus. of students' models of houses.

THEORY

WERK (Zürich), *1943 Nov., pp. 353-8 :*
Measure and number in architecture. Article by E. Stockmeyer on modular design, number and geometrical æsthetic formulæ in ancient and modern architecture (Corbusier and F. L. Wright). Illustrated.

ARCHITECTURAL REVIEW, *1943 Dec., pp. 169-171 :*
Colour and display, by John Piper ; article illustrated in colour by author on Use of colour in vernacular English buildings.

ARCHITECTURAL REVIEW, *1944 Feb., pp. 30, 51-2 :*
Colour and texture in building, by John Piper. Wall surfaces, etc. Illustrated in colour by Piper.

ARCHITECTURAL REVIEW, *1944 Feb., pp. 47-50 :*
Sir Uvedale Price on picturesque planning : summary of Price's Essays on the picturesque (1794-1810).

PRESERVATION

AMERICAN CITY, *1944 Jan., p. 45 :*
Rehabilitation of Stony Brook, Long Island ; restoration of old buildings, etc.

ARCHITECTURAL REVIEW, *1943 Dec., pp. 167-8 :*
Theatre Royal, Bristol : note on history of building and recent restoration by John Summerson [*A.*]. Illustrated.

COUNTRY LIFE, *1943 Dec. 17, pp. 1080-3 :*
Dinton, Wilts. : four houses acquired by National Trust in village—Dinton House, by Wyatville ; Hyde's House, Little Clarendon House, and Lawes Cottage. Described J. Lees-Milne.

HISTORY

COUNTRY LIFE, *1943 Dec. 24, pp. 1124-7 ; Dec. 31, pp. 1168-71 ; 1944 Feb. 4, 11 :*
Cobham, Kent : i, Cobham Hall, great country house rebuilt 1580-1600. Described by C. Hussey and illustrated by photos. ii, Owletts, Cobham, eighteenth-century house, owned by Sir Herbert Baker, R.A. Presented to National Trust. iii, Village, church, a house. iv, Cobham College (almshouse).

COUNTRY LIFE, *1944 Jan. 7, pp. 18-21 :*
Bradford-on-Avon, by E. Walker in " Old towns revisited " series.

BUILDER, *1943 Dec. 24, pp. 508-12 :*
" A Christmas journey by road " : article by " Autolycus Secundus," with notes on historical buildings in Ampthill, Dunstable, St. Albans, Eton and Windsor, London. Illustrated by line drawings.

BUILDING, *1944 Feb., pp. 54-5 :*
Buildings of Iviza, Balearic islands : described by H. E. Adler. Illustrated by photos.

SOUTH AFRICAN ARCHITECTURAL RECORD, *1943 Nov., pp. 271-81 :*
Chinese culture and architecture, by A. S. Konya.

BUILDING, *1943 Dec., pp. 310-14 :*
Architecture in Soviet Turkestan ; article by H. E. Adler. Historical and post-revolution building and town planning details of Gissar and Tashkent.

COUNTRY LIFE, *1944 Feb. 4, pp. 194-6 :*
Ankara. Kemal Ataturk's City, by Derek Patmore. Illustrated.

JNL., ROYAL ARCHL. INST. OF CANADA (Toronto), *1943 Oct., pp 167-75 :*
Brazil architecture ; articles by P. Synge and Philip Goodwin.

COUNTRY LIFE, *1944 Mar. 3, pp. 372-3 :*
Old Assembly Rooms, Norwich, by Thomas Ivory (1754). Illustrated and described by C. Hussey.

ANTIQUARIES' JOURNAL, *1943 Jan.-Apl., pp. 14-18 :*
All Hallows Church, Barking ; recent discoveries in Saxon remains uncovered by bombing described by T. D. Kendrick and C. A. Ralegh Radford.

ARCHITECTURAL REVIEW, *1944 Feb., pp. 52-3 :*
Roubiliac's Argyll Memorial. Continuation of illustration of Warburg Institute photos of Westminster Abbey memorials.

COUNTRY LIFE, *1944 Feb. 11, p. 241 :*
Cruck buildings in Herefordshire. Short illustrated article by F. C. Morgan.

COUNTRY LIFE, *1944 Feb. 18, pp. 288-9 ; Feb. 25 :*
Beverston Castle, Glos. (1225), by C. Hussey.

COUNTRY LIFE, *1944 Jan. 21, 28, pp. 112-5 :*
Wilton House and the Earl of Pembroke, 1544-1944. Notes on the building, with reproduction of newly-found Inigo Jones-Webb drawings.

COUNTRY LIFE, *1944 Mar. 3, pp. 376-9 :*
Midford Castle, Somerset : mock-Gothic castellated villa, built 1775, probably designed by John Carter. Folly.

COUNTRY LIFE, *1944 Mar. 10, pp. 424-5 :*
Family pews in English parish churches. Illustrated article by F. C. Eeles.

JOURNAL OF THE R.I.B.A., *1944 Feb., pp. 84-5 :*
A forgotten episode in the history of Robert Mylne, by Katherine Esdaile. Buildings for New River Company, Amwell, Herts.

JNL., AMERICAN SOCIETY OF ARCHITECTURAL HISTORIANS, *1943 July, pp. 12-20 :*
C. N. Ledoux, 1736-1806 : inaugurator of a new architectural system ; article by E. Kaufman. Breakaway from Baroque ; the architecture of revolution. Illustrated.

ARCHITECTURAL REVIEW, *1944 Feb., pp. 39-43 :*
Edensor : picturesque Victorian village (c. 184—) on Chatsworth Estate, Derbyshire ; romantic houses by John Robertson ; lodges by Wyatville ; planning possibly by Paxton.

ARCHITECT AND BUILDING NEWS, *1944 Jan. 7, pp. 3-9 ;*
ARCHITECTS' JOURNAL, *Jan. 6 ;*
BUILDER, *Jan. 7, pp. 6-8 ;*
COUNTRY LIFE, *Jan. 14, 68-71 ;*
JOURNAL R.I.B.A., *Jan. :*
Sir Edwin Lutyens, P.R.A. : obituaries and memoirs—in JNL. R.I.B.A. by H. S. Goodhart-Rendel [*P.P.*], in BUILDER by Prof. A. E. Richardson [*F.*] and Dr. H. V. Lanchester [*F.*] ; in C.L. by C. Hussey.

BUILDING, *1944 Feb., pp. 32-4 :*
The influence of Lutyens, by Prof. A. E. Richardson [*F.*].
ARCHITECT AND BUILDING NEWS, *1943 Dec. 13, pp. 145-9 ;*
BUILDER, *Dec. 3, p. 447 :*
Swedish architecture, building and art. Report on recent visit to Sweden by F. R. Yerbury. Photos in A. & B.N.
ARCHITECTURAL DESIGN AND CONSTRUCTION, *1944 Jan., pp. 5-9 :*
Sweden today : photographs of recent building by F. R. Yerbury. Schools, Stockholm, by Hedquist ; Ericsson telephone factory by Wennerholm, etc.

ARCHITECTURAL VOCATION ; PROFESSIONAL PRACTICE ; LOCAL GOVERNMENT

TASK (New York), *1943 (No. 4), pp. 30-32 :*
Architecture and its profession in Canada, by Fred Lasserre, representing view of younger architects in support of Government-promoted building rather than private enterprise.
OCTAGON, JOURNAL OF A.I.A. (Washington), *1943 Dec., pp. 13-15 :*
Private architect *v.* the Civil Service : defence of the private architect by C. C. Platt.
JOURNAL, INSTN. CIVIL ENGINEERS, *1944 Mar., pp. 53-67;*
JOURNAL R.I.B.A., *1944 Jan., pp. 56-62 :*
Engineer and Architect : possibilities of collaboration. Paper by H. J. Rowse [*F.*] to Institution of Civil Engineers at Cambridge. Illustrated.
OCTAGON (JnI. of A.I.A.), *1943 Oct., pp. 14-6 :*
Building materials and equipment production and American architects. Relations between Producers' Council and A.I.A. described by A.I.A. President. Mutual consultation services.
BUILDER, *1943 Dec. 3, pp. 456-8 :*
Builders' "additional costs." Discussion at C.S.I., opened by Mr. H. W. Langdon.
ARCHITECT AND BUILDING NEWS, *1943 Dec. 10, p. 155 :*
Cost of building : analysis of H. J. Venning, F.S.I., of varying estimates recently made by B.I.N.C. and others.
ARCHITECT AND BUILDING NEWS, *1944 Feb. 25, p. 139 :*
Analysis and forecast of building costs, by H. J. Venning, F.S.I.
SOUTH AFRICAN ARCHITECTURAL RECORD, *1944 Jan., pp. 16-20 :*
City government : critical study of machinery and principles, with special reference to Cape Town, by K. Hall-Gardner.

ART (general), ALLIED ARTS

STUDIO, *1944 Mar., pp. 73-84 :*
The Royal Academy : its origin, growth and outlook, by Sir W. R. M. Lamb, Secretary. Illustrated.
TECHNOLOGY REVIEW (M.I.T.), *1943 Nov., pp. 21-3, 42, 44 :*
"Better than before" : article by L. Moholy-Nagy on Creative industrial designing as rehabilitation work for disabled people. Illustrates and describes work and programmes of School of Design, Chicago.
ARCHITECTURAL REVIEW, *1943 Dec., pp. 155-62 :*
Eric Ravilious, artist as a designer for typography, pottery, etc. Beautifully illustrated article by R. Y. Goodden [*A.*].
SOUTH AFRICAN ARCHITECTURAL RECORD (Johannesburg), *1943 Dec., pp. 305-9 :*
Egyptian art and architecture, by A. Axelrod. Influence of social conditions. Illustrated.
STUDIO, *1944 Feb. :*
Soviet art : special number, including articles on sculpture, theatre design.
WERK (Zürich), *1943 Aug. :*
Swiss printing and typography. Special double number, including articles and illustrations, exhibition display, posters.
WERK (Zürich), *1943 Apl., pp. 121-7 :*
The furnishing of our [Swiss] dwellings : article by E. Streiff, illustrating domestic interiors. "Home style" : article by H. Krenzle and illustrations and description of Swedish military furniture and recent Finnish furniture.

BUILDING (generally)

ILLUSTRATED CARPENTER AND BUILDER, *1943 Dec. 3, p. 1343 :*
"Scaffold Latin," by W. E. Kelsey : philology of building words and phrases.
JOURNAL, ROYAL SOCIETY OF ARTS, *1944 Feb. 4, pp. 123-9 :*
Some modern methods of construction practised in America : paper by A. C. Bossom [*F.*], on return from U.S. building mission, and discussion.
BUILDER, *1944 Feb. 25, pp. 162-3 :*
R.I.B.A. Architectural Science Board lectures : brief reports of lectures on new developments in timber construction (by P. O. Reece) and welding (by Ramsay Moon).
ARCHITECT AND BUILDING NEWS, *1944 Feb. 25, pp. 149-52 :*
ARCHITECTS' JOURNAL, *Mar. 16, pp. 213-6 and xl :*
The influence on architectural design of new developments in construction. R.I.B.A. Science Board lecture by M. Hartland-Thomas [*F.*], concluding series of lectures on Timber, Welding and Formwork,
ILLUSTRATED CARPENTER AND BUILDER, *1944 Feb. 11, pp. 143-4 ; Feb. 18 :*
Errors and omissions in construction, by C. W. Craske.
ENGINEERING NEWS-RECORD (N. York), *1943 Oct. 21, pp. 106-9 :*
Construction after the war : statements by three engineers on possibilities opened by war experience.
ARCHITECTURAL RECORD, *1943 Dec., Supplement, 30 pp. :*
Construction potentials in U.S. Analysis by Dodge Corp., with suggestions for industrial action now. Analysis of post-war demand, of economic problems and desirable legislation.
BUILDER, *1943 Dec. 10, p. 467 :*
Outline of British building problems and tasks, by A. C. Bossom. M.P. [*F.*]. Luncheon speech.

STRUCTURAL ELEMENTS

CIVIL ENGINEERING, *1944 Jan., pp. 4-8 :*
Practical considerations on the bearing capacity of ground, by R. R. Minikin.
STRUCTURAL ENGINEER, *1944 Feb., pp. 53-65 :*
Foundations in combustible material (refuse tips, made ground, etc.). Paper by W. C. Andrews, M.Inst.C.E.
ARCHITECTURAL RECORD (N.Y.), *1943 Oct., pp. 77-80 :*
Dry-wall construction, pt. 2. Gypsum, plywood, miscellaneous. Time-saver standards, by H. R. Sleeper.
JOURNAL OF THE LAND AGENTS' SOCIETY, *1944 Jan., pp. 14-15 :*
Drystone dykes : illustrated note on building of drystone walling in Scottish Border district.
ARCHITECTURAL REVIEW, *1944 Feb., pp. 55-6 :*
Cotswold dry-stone walling : note by J. Harman, builder. Illustrated.
ILLUSTRATED CARPENTER AND BUILDER, *1934 Dec. 24, pp. 1428-9 :*
Timber cantilevers and continuous beams ; design data.
ENGINEERING NEWS-RECORD (N. York), *1943 Nov. 4, pp. 106-8 :*
Plywood plate girders for buildings.
ENGINEERING NEWS-RECORD (N. York), *1943 Oct. 21, pp. 114-9, 122-5 :*
150-ft. timber trusses in roof of aircraft plant for Douglas. Long span laminated timber arches for hangar, 177-ft. span. Both articles fully illustrated.
TASK (New York), *1943 (No. 4), pp. 26-29 :*
The Z—D system of shell roof construction ; technical article by E. W. Kylce on system using about 3¼-in. thick concrete shell for spans from 50-250 ft. ; illustrated.
ILLUSTRATED CARPENTER AND BUILDER, *1944 Feb. 11-18, pp. 148-9, 174-5 :*
Copper roofing : welts, seams and rolls. Nos. 28, 29 in Roof coverings series, by E. Lucas.
ILLUSTRATED CARPENTER AND BUILDER, *1943 Dec. 31, pp. 1456— :*
Ventilation of suspended type of timber ground floors, by R. V. Boughton. Dry-rot prevention, sleeper wall design, air bricks, etc. Ilustrated by sections, isometrics.
ARCHITECTS' JOURNAL, *1944 Feb. 10, Information Sheet 928 :*
Construction of sound-insulating timber floors.
ARCHITECTS' JOURNAL, *1944 Mar. 2, Information Sheet 931 :*
Sound-insulating solid floors : sections.
ARCHITECT AND BUILDING NEWS, *1944 Feb. 11, pp. 117-8 :*
Some notes on jointless flooring, by Edwin Gunn.
BUILDER, *1944 Jan. 28, pp. 80-1 :*
Pitch mastic flooring. Notes on experience in use by Ministry of Works.
ILLUSTRATED CARPENTER AND BUILDER, *1943 Dec. 17, pp. 1404-6 :*
Mass-produced panel doors : article by E. Goodson on framing, etc., in relation to British Standard Specifications.
ARCHITECTS' JOURNAL, *1944 Feb. 17, p. 132 :*
Window design from point of view of a window-cleaner. Letter ; illustrated.

KINDS OF TROPICAL BUILDINGS ; MOVING OF BUILDINGS

JNL., ASSOCN. OF ENGINEERS AND ARCHITECTS OF PALESTINE, *1943 Oct., pp. 1-4 :*
"Towards reform of town and house planning in Palestine," by W. J. Witkower. Orientation to give maximum wind flow ; thermal conditions analysed in detail, and building design problems discussed.
ARCHITECTS' JOURNAL, *1944 Feb. 24, pp. 146-8, 151-62, xxxvi :*
Moving of buildings : detailed description by Arthur Ling [*A.*] of the technique developed in U.S.S.R. and its use in achieving Moscow plan improvements. Fully illustrated. Best description outside Soviet journals.

BUILDING OPERATIONS AND APPARATUS

BUILDING, *1943 Dec., pp. 318-21 :*
Varieties of moving form construction for reinforced concrete building ; article by L. E. Hunter. Photos and details.

CONCRETE AND CONSTRUCTIONAL ENGINEERING, *1943 Dec., p. 389 :*
New system of climbing shuttering, designed by P. N. Oldrieve. Illusd.

BUILDING PRACTICE AND INDUSTRY, ORGANISATION

JNL., CLERKS OF WORKS ASSOCN. OF GREAT BRITAIN, *1944 Jan., pp. 1-12 :*
Site organisation of a public works contract, by S. H. Hume, M.I.Struct.E. (Further reference.)

ARCHL. DESIGN AND CONSTRN., *Mar., 70-72 ;*
BUILDER, *1944 Feb. 25, pp. 159— :*
JNL. R.I.B.A., *Mar., pp. 107-12 :*
War experience in the organisation of building contracts. Paper by T. P. Bennett [*F.*] at R.I.B.A.

BUILDER, *1944 Mar. 3, pp. 173-5 :*
British building organisation : correspondence on T. P. Bennett's paper to R.I.B.A. and on Ministry of Works Report on American building organisation ; particular reference to quantity surveying. Also correspondence in THE TIMES, *passim.*

MATERIALS

IRISH BUILDER AND ENGINEER (Dublin), *1943 Dec. 4, pp. 461-2 :*
Control of dry rot : architectural design and building practice, by Prof. J. B. Butler. Illustrated.

BUILDER, *1944 Mar. 3, p. 180 :*
Ministry of Health memo on dry rot (Circular No. 3, 1944). Critical note by J. W. Cabre [*F.*].

JOURNAL OF THE ROYAL SOCIETY OF ARTS, *1944 Jan. 21, pp. 94-117 :*
Forest products. Cantor lectures by W. A. Robertson, Director F.P.R.L., and H. A. Cox, its Trade Relations Officer. Largely on structural uses of modern commercial timber ; laminated beams and arches, etc. In Mr. Cox's paper information on historical and other uses of a great variety of woods.

ARCHITECTS' JOURNAL, *1944 Feb. 17, pp. 133-6 :*
British forestry : article No. 26 in Physical planning series, by Ray Bourne.

ARCHITECTS' JOURNAL, *1943 Dec. 23, pp. 457-8 ; Dec. 30, pp. 475-6 :*
" Will there be timber ? " Leaders on post-war timber supplies to Britain, with sources and quantities of pre-war importation.

BUILDER, *1943 Dec. 24, pp. 517-8 :*
Plywood : technical developments in U.S.A. Summary by U.S. Bureau of Labour.

COUNTRY LIFE, *1943 Dec. 10, pp. 1032-3 :*
" Will thatching be revived " ; article by N. Wymer, illustrated phots. of examples and technique.

ARKITEKT (Istanbul), *1943 No. 9-10, pp. 220-6 :*
The composition and control of cement mixes. Article by Engineer Taspinar.

BUILDER, *1944 Jan. 21, pp. 62-3 :*
Concrete and its improvement : the role of admixtures, by M. Spindel.

PENCIL POINTS (N. York), *1943 Oct., pp. 14-15 :*
Plastics : illustrations and note on Architectural League Exhibition, N. York.

ILLUSD. CARPENTER AND BUILDER, *1943 Dec. 17, pp. 1398-1400 :*
Plastics in the modern house, by R. Forman. Short popular article.

ARCHITECTS' JOURNAL, *1944 Jan. 27, Information Sheet 926 :*
Building boards and sound transmission : details of partition walls.

JOURNAL, INSTITUTION OF CIVIL ENGINEERS, *1944 Feb., pp. 199-213 :*
Protective paints for steelwork in tropical climates. Paper by H. E. Whitehouse on experience on lower Zambesi bridge.

ARCHITECTS' JOURNAL, *1943 Dec. 30, Information Sheet 922 :*
Light transmission and absorbtion of coloured glass ; daylight colour values, etc.

ARCHITECT AND BUILDING NEWS, *1943 Dec. 24, p. 186 :*
Corrugated iron as a building material, by E. Gunn [*F.*].

ILLUSTRATED CARPENTER AND BUILDER, *1944 Jan. 21, pp. 68-70 :*
Corrugated iron sheets. No. 25 in Roof coverings series, by E. Lucas.

BUILDING, *1944 Feb., pp. 48-50 :*
Porcelain enamelled sheet iron : use as surfacing material in prefabrication. Details.

CONSTRUCTION, including PREFABRICATION

PLAN (JOURNAL OF ARCHITECTURAL STUDENTS' ASSOCIATION), *1943 No. 4, pp. 4-7 :*
Prefabrication : descriptive article on what prefabrication is and its implications, by R. H. Sheppard.

ARCHITECTURAL RECORD (N.Y.), *1943 Oct., p. 84 :*
Prefabrication : list of U.S. manufacturing firms, supplement to A.R. list, June.

PENCIL POINTS, *1943 Dec., pp. 76-81 :*
General Panel Corp. prefab. system : variety of houses designed by Harvard students from identical units, described and illustrated.

ARCHITECTURAL RECORD, *1943 Nov., pp. 61-6 :*

ARCHITECTURAL FORUM, *Dec., pp. 83-8 ;*
Articles on " Ratio Structures "—prefab. system, by Lester, Wiener, Sert & Schulz, separating structure from curtain walls. Well illustrated, particularly in FORUM.

ARCHITECTURAL FORUM, *1943 Nov., pp. 75-8 :*
Prefabrication. " Sectionnit," an Australian timber system, described and illustrated. Also " Cosy Coach " transportable house.

REVISTA DE ARQUITECTURA (Buenos Aires), *1943 Oct., pp. 386-95 :*
Prefabrication in U.S.A. Paper by E. Sacriste. Description and illustration of several systems.

ARCHITECTURAL DESIGN AND CONSTRUCTION, *1943 Dec., pp. 245— :*
Prefabricated house in the U.S.A. : a review by Edric Neel [*A.*] of six articles in ARCHITECTURAL FORUM, 1942 Dec.—1943 June.

ARCHITECTS' JOURNAL, *1944 Feb. 3, pp. 95-6 :*
Prefabrication : letter from Sub-Lieut. T. W. Atkinson ; impressions of U.S. prefab. experience.

PENCIL POINTS, *1943 Dec., p. 82 :*
Prefabrication : building codes. Article by G. L. Kaufman.

ARCHITECTURAL FORUM, *1944 Mar., pp. 65-68 :*
Prefabrication's post-war plans. Statistical analysis of prefabrication ; industrialists' view of prospects and markets.

ILLUSTRATED CARPENTER AND BUILDER, *1943 Dec. 17, pp. 1410-2 :*
Pipes and railings on flat roofs.

ARCHITECT AND BUILDING NEWS, *1944 Feb. 4, pp. 94-7 :*
Reinforced-concrete shell membrane structures. Article by E. D. Mills [*A.*]. Structural information. Illustrated by U.S. and other examples.

ILLUSTRATED CARPENTER AND BUILDER, *1943 Dec. 10, pp. 1378, '80, '82 :*
Timber construction data, by R. V. Boughton, A.I.Struct.E. Scantlings, formulæ, etc.

SANITARY SCIENCE AND EQUIPMENT

JOURNAL OF THE R.I.B.A., *1944 Feb., pp. 86-92 :*
Sanitary science and hygiene in reconstruction : extracts from Chadwick Trust prize essay, 1943, by A. F. Russell [*A.*].

ARCHITECT AND BUILDING NEWS, *1943 Dec. 10, folded inset :*
" Denham " plumbing and heating unit, designed by S. J. Graveley and S. C. Warren. Complete h. & c. domestic supply, with all services, in single prefabricated unit. Illustrated plans, details, described.

JOURNAL, ASSOCIATION OF ENGINEERS AND ARCHITECTS IN PALESTINE (Tel Aviv), *1943 Nov., pp. 3-5 :*
Hygiene in buildings of antiquity—Babylon, Ur, Rome, etc. Town planning, orientation, etc.

IRISH BUILDER AND ENGINEER, *1944 Jan. 29, pp. 45-6 :*
American plumbing. Paper to Association of Master Plumbers, Dublin, by H. A. O'Neil.

ARCHITECTS' JOURNAL, *1944 Jan. 13, pp. 35-6 :*
Electrical equipment in modern building. Paper by A. C. Bossom to Electrical Association for Women.

JOURNAL, INSTITUTION OF ELECTRICAL ENGINEERS, *1944 Jan., pp. 21-27 :*
Electrical installations : the present and the future ; a survey, by A. G. Ramsey. Notes on wiring, lighting, domestic installation, lightning protection, etc.

BUILDER, *1944 Jan. 28, p. 74 :*
The science and the art of lighting. Joint meeting of R.I.B.A. and Illuminating Engineering Society ; with papers and demonstration by R. O. Acklerley and A. G. Macdonald [*A.*].

ARCHITECTURAL FORUM, *1943 Nov., pp. 6-7, 140-1 :*
Cold cathode fluorescent lighting : note on efficiency, with table comparing with incandescent.

ELECTRICAL SUPERVISOR, *1944 Feb., p. 93 :*
Lighting at present and post-war possibilities, by W. J. Jones, M.I.E.E. Fluorescent lighting.

AIR TREATMENT ENGINEER, *1944 Mar., pp. 37-44 ;*
HEATING AND VENTILATING ENGINEER, *Mar., pp. 337-44 :*
National heating problems and district heating : presidential address by Dr. Oscar Faber. Detailed comparisons of the cost and efficiency of various domestic heating methods. An important contribution.

ENGINEERING NEWS-RECORD (N. York), *1943 Oct. 21, pp. 110-12 :*
Radiant heating for large war service building ; pipes embedded in concrete floor slab ; illustrated.

PENCIL POINTS, *1943 Dec., pp. 64-71 :*
Design and practice of radiant heating, by P. Hallock. Article on

principles and calculations following description of private house, Lancaster, Pa., in which system used.

INDUSTRIAL HEATING ENGINEER, *1944 Jan., pp. 15-18 :*
District heating. Paper by P. G. Kaufman to Royal Netherlands Institute of Engineers.

HEATING AND VENTILATING ENGINEER AND JOURNAL OF AIR-CONDITIONING, *1944 Feb., p. 313 :*
Hot-water supplies to dwellings by the utilisation of waste heat from refuse disposal. Cost and output supply analysis.

ILLUSTRATED CARPENTER AND BUILDER, *1943 Dec. 24, pp. 1426-7 :*
Domestic hot-water supply faults, by A. Roberts. Incorrect lay-outs and piping illustrated.

ARCHITECTS' JOURNAL, *1943 Dec. 23, Information sheet 921 :*
Instantaneous gas water heaters installation.

PROOFING

STRUCTURAL ENGINEER (Inst. Struct. E.), *1943 Dec., p. 497 :*
Wind loads on buildings : paper by H. Ferrington. Definition and calculation wind force and types, geophysical factors.

ARKITEKT (Istanbul), *1943 No. 9-10, pp. 211-215 :*
Latest research in earthquake effects on structures. Article by Prof. W. Schütte.

ARCHITECTS' JOURNAL, *1943 Dec. 16, Information Sheet 920 :*
Sound transmission reduction by structural isolation : use of building boards.

JNL., INSTITUTION OF ELECTRICAL ENGINEERS, *1943 Dec., pp. 501-22 :*
The protection of structures against lightning. Paper to I.E.E. by J. F. Shipley, and discussion. Fullest survey of recent years ; deals in detail with,—need for protection ; principles and components of protective system ; special structures : constructional details of protective systems, including materials and costs. Bibliography.

BUILDER, *1943 Dec. 17, p. 498 :*
Heat insulation : article on equipment, materials and design of lagging for domestic equipment.

ILLUSTRATED CARPENTER AND BUILDER, *1944 Jan. 7, p. 10 :*
Frozen pipes : short article by J. T. Pett.

ENGINEERING NEWS-RECORD (N. York), *1943 Nov. 4, pp. 109-11 :*
Hospital construction in winter weather—brick and tile walls built inside temporary heated enclosures of tarpaulin.

A.R.P. WAR DAMAGE (including REPAIR, REBUILDING)

JOURNAL, INSTITUTION OF HEATING AND VENTILATING ENGINEERS, *1943 Nov.-Dec., pp. 186-206 :*
Physical and engineering aspects of the war-time storage of art treasures. By F. I. G. Rawlins, M.Sc., Scientific Adviser to National Gallery, and Paul Fletcher. Illustrated.

ARCHITECTURAL REVIEW, *1944 Jan., pp. 13-17 :*
"Save us our ruins." With special reference to London churches. Argument from landscape point of view by G. A. Jellicoe. Illustrated photos and drawings by Neville Conder.

ARCHITECT AND BUILDING NEWS, *1944 Feb. 18, pp. 124-7 :*
The future of the injured City churches ; by H. S. Goodhart-Rendel [*P.P.*]. Reference to Friends of the City Churches' policy.

BUILDING, *1943 Dec., pp. 302-3 :*
Devastation in Liverpool : article by Prof. C. H. Reilly [*F.*], illustrated by plans and folded-plate photos.

ARKHITECTURA S.S.S.R. (Moscow), *1942 No. 1, pp. 3-16 :*
War damage to ancient monuments in Russia and Ukraine, etc. Article illustrating buildings at Kalinin, Kaluga, Mohaisk, followed by special article on New Jerusalem Monastery, Istra, by Rastrelli.

ARCHITECTS' JOURNAL, *1943 Dec. 23, pp. 467-9 :*
Russian buildings destroyed by the Germans : illustration of Exhibition at R.I.B.A.

ENGINEERING

ROYAL ENGINEERS' JOURNAL, *1943 Dec., pp. 278-81 :*
Engineering in antiquity, by Lt.-Col. J. V. Davidson-Houston—Egypt, China, Mesopotamia, India.

JOURNAL, INCORPORATED CLERKS OF WORKS ASSOCIATION OF GREAT BRITAIN, *1944 Mar., pp. 27-31 :*
Thames barrage scheme : paper to Municipal and County Engineers by P. Smart, Borough Engineer, Southwark.

BUILDER, *1944 Jan. 21, pp. 51-2 :*
Severn Barrage scheme described by N. G. Gedye.

TOPOGRAPHY

COUNTRY LIFE, *1944 Feb. 18, pp. 282-3 :*
Through the Fens, by R. T. Lang.

ARCHITECTURAL REVIEW, *1944 Jan., pp. 23-5 :*
Ismailia, Egypt ; by Edward Lewis [*A.*]. Illustrated by photos, drawings, plans.

ARCHITECTURAL REVIEW, *1944 Feb., pp. 31-3 :*
Mexican journey, by Lance Sieveking : life, countryside, arts.

PLANNING AND RECONSTRUCTION (physical and sociological)

ARCHITECTURAL RECORD (New York), *1943 Oct., pp. 44-8 :*
The political art of planning, by Dean Joseph Hudnut ; illustrated by Christopher Tunnard.

ARCHITECTS' JOURNAL, *1943 Dec. 2, pp. 409-11 :*
Planning publicity : article by Misha Black in Physical planning series. Proposal for Office of Reconstruction Organisation.

(*To be Continued.*)

Notes

TEACHING APPOINTMENT VACANT AT LEEDS

The Head of the Leeds School of Architecture, Leeds College of Art, will be pleased to hear from members of the R.I.B.A. who are interested in teaching appointments.

The staff of the School has been seriously depleted owing to the calling up of younger members.

Although appointments during war-time will be temporary, there is every likelihood that suitable candidates will be placed on the permanent staff owing to the development of the School in recent years. The posts will be either part-time or full-time and candidates should have special knowledge of design and working drawings.

Further information as to salaries and other conditions of employment may be obtained from the Head of the Leeds School of Architecture, Leeds College of Art, 43A, Woodhouse Lane, Leeds, 2.

EDINBURGH COLLEGE OF ART SCHOLARSHIP

EDINBURGH COLLEGE OF ART.—The Board of Management may award in June this year three scholarships of £225 for one year for a full-time course in Town and Country Planning at the School of Architecture of the College for the session beginning on 2 October 1944. Candidates must be British subjects, under the age of 30 on 1 October 1944, and should have completed a degree or diploma course in architecture, engineering or surveying. The last date for receipt of applications is 7 June 1944.

Further particulars may be obtained from the Registrar, College of Art, Edinburgh, 3.

THE ACCEPTANCE OF PUPILS AND JUNIOR ASSISTANTS AND THE PROBATIONERSHIP OF THE R.I.B.A.

In July 1943, members were reminded that in accordance with the Interim Report of the R.I.B.A. Special Committee on Architectural Education, published in the JOURNAL of March 1942, candidates who had not started their architectural training by the 30 June 1943, would not be enrolled as Probationers unless they have passed one of the specified qualifying examinations. A list of these can be obtained on application to the Acting Secretary.

The Board of Architectural Education have noticed in recent months a large number of cases in which members have obviously accepted pupils or junior assistants without satisfying themselves that the necessary standard of general education for the Probationership had been reached.

Members are again reminded that it is most important that they should not take boys or girls into their offices unless they possess one of the qualifications laid down. If the pupils have not done so they should be warned that it will be essential for them to obtain one of the recognised qualifications if they wish eventually to become members of the R.I.B.A. or to be admitted to the examinations which are a qualification for admission to the Register of Architects.

GENERAL SCHEME FOR REPAIR OF HOUSES BY LOCAL AUTHORITIES

Local authorities throughout England have been advised by the Ministry of Health of the urgent need for providing the maximum amount of housing accommodation at the earliest possible moment, both by the repair of war damaged property and the requisitioning of houses which may be reconditioned or in some cases may be converted into flats.

Where local authorities find it necessary to engage the services of architects in private practice the fees in respect of war damage repairs and work of a similar character will continue to be those laid down in Circular 2720, an extract from which is given below.

In the case of conversion of dwelling houses into flats the Council of the R.I.B.A., after consultation with the Ministry of Health, have approved a scale of fees for this work. The scale is given below.

Fees for War Damage Repair Work for Local Authorities

(Extract from Ministry of Health Circular 2720 to Housing Authorities (England) 30 November 1942)

Part II. Professional Fees

6. The fees now payable by local authorities for professional services in connection with the first-aid repair of houses damaged by enemy action are laid down in Memorandum IIA 16, dated 28 December 1939. This Memorandum provides that a fee of 10s. per hour shall be paid for principals' and senior assistants' time, this to include any necessary office expenses and clerical assistance.

As local authorities will appreciate, there was at the time no real data on which to base a scale of remuneration for this work and the fee prescribed was the best estimate that could then be made. It has been found by experience that the cost of work at these fees varies within wide limits and that very uneven results have been produced. The matter has been under consideration in consultation with the War Damage Commission and the Royal Institute of British Architects, and the Minister has decided that a revised code should in future be applied. This is substantially the same as that recently issued for use by persons other than local authorities by the War Damage Commission after consultation with the Royal Institute of British Architects, the Chartered Surveyors' Institution and the Auctioneers' and Estate Agents' Institute. This code so far as it affects the operations of local authorities is as follows :—

Scale of Fees

1.—For preparing a specification of works (or equivalent document) ; for obtaining tenders and/or arranging a contract where necessary ; and for general supervision and execution of the works and certifying for payments and completion :—

(*a*) 5 per cent. on the first £500 of the cost with a minimum fee of £1 1s. (or a minimum fee of £5 5s. where the work affects the structural stability of the building or involves reinstatement or repair of features of architectural or artistic interest).

(*b*) 4½ per cent. on the next £500 of the cost.

(*c*) 4 per cent. on the next £500 of the cost.

(*d*) 3½ per cent. on the balance of the cost.

2.—An appropriate specification, or equivalent document, conveying to the builder clear directions as to the work to be carried out must be prepared before or at the time when the works are put in hand, and the person charging the fees must certify that he has fully performed the services described.

3.—If, in any exceptional case, it is desired to utilise the services of a quantity surveyor, the proposal *must be referred* to the Senior Regional Officer of the Ministry of Health for prior approval. If it is agreed that such services are needed, fees will be allowed, in addition, on the normal professional scale.

4.—The above fees are *exclusive* of travelling expenses and other reasonable disbursements and of the wages of a clerk of works.

5.—The above fees are *inclusive* of the fees of any consultant or specialist engineer by whom the architect or surveyor may wish to be advised.

6.—The scale of fees shall be applied by reference to the aggregate cost of work done under each contract between the local authority and the contractor or builder.

7.—It will be observed that the scale of fees makes no provision for the employment of an architect to make a detailed survey of buildings or to prepare or check working drawings. In the Minister's view, it will very seldom be necessary as regards the repair of war damage to house property, including blocks of flats, for local authorities to resort to an arrangement of this kind. If, in exceptional circumstances, the local authority wish to make such an arrangement in relation, e.g., to block dwellings, an application for prior approval should be submitted to the Senior Regional Officer, accompanied by a full statement of the facts. The Senior Regional Officer will, if the application is approved, advise on the appropriate scale of remuneration.

8.—The Minister desires to make it clear that the fees referred to in the above scale are maximum fees and that where outside professional assistance is not used for the whole of the work there described, the local authority should consider what reduction in the scale would be appropriate, having regard to the nature of the work and the existence of any special difficulties it may present.

Scale of Fees for the Emergency Conversion of Dwelling Houses into Flats by Local Authorities

After consultation with the Ministry of Health, the Council of the R.I.B.A. have approved the following scale of fees for the emergency conversion of dwelling houses into flats by local authorities.

1.—For making detailed survey of the building :—

Principal's time	£5	5	0	a day
Senior Assistant's time ..	£2	12	6	,,
Junior Assistant's time ..	£1	11	6	,,

NOTE.—Senior assistants to mean assistants receiving £6 6s. a week and upwards ; junior assistants, those receiving up to £6 6s. a week.

2.—For preparing working drawings and specifications of the works (or equivalent document) ; where necessary, obtaining tenders and/or arranging a contract ; for general supervision of the execution of the works and certifying for payments and completion :—

10 per cent. on works costing up to £500 with a minimum fee of £10 10s.

9 per cent. on works costing between £500 and £1,000 with a minimum fee of £50.

8 per cent. on works costing between £1,000 and £1,500 with a minimum fee of £90.

7 per cent. on works costing between £1,500 and £2,000 with a minimum fee of £120.

6 per cent. on works costing over £2,000 with a minimum fee of £140.

3.—The above fees are exclusive of travelling expenses and other reasonable disbursements and the fees under (1) are in addition to those under (2).

4.—The above fees are exclusive of the wages of a clerk of works.

5.—The above fees are exclusive of those for quantity surveying services. If such services are required, fees will be allowed, in addition, on the normal professional scale.

Fees for quantity surveying services will be allowed where the works cost more than £1,000, and where these services are rendered by a quantity surveyor or a firm of quantity surveyors practising as such, not being the person or firm rendering the services described in paragraph 2 of the scale above.

Provided only that where the person or firm who has rendered the services described in paragraph 2 of the scale above in the capacity of architect, is also in regular practice as quantity surveyor, fees for quantity surveying services may also be allowed where the certificate that these latter services have been performed is signed by the person (stating his qualifications) who has actually rendered such services, and also by the principal or firm with which he is connected.

6.—The above fees are inclusive of the fees of any consultant or specialist engineer by whom the architect or surveyor may wish to be advised.

7.—The fees are to be calculated on the cost of the building work carried out to a property or properties for which one set of drawings and one specification have been prepared. In the event of a group of similar properties being dealt with by the same architect and where one set of drawings and one specification are supplied for the whole of the properties then the scale may be applied by reference to the aggregate cost of the work.

8.—The fees for abandoned work for which professional services have been rendered shall be calculated by reference to the R.I.B.A. Scale of Charges, Clause 2 (*e*), (i), (ii), (iii) and (iv).

2 May, 1944.

WAR DAMAGE AND PARTY WALL AWARDS

The Practice Committee have had considerable correspondence with the War Damage Commission on the question of whether surveyors' fees in connection with Party Wall Awards should be included in the proper cost for the purposes of a " cost of works " claim. It was the view of the Committee that such fees should be allowed because the Party Wall Award must be made before the work can proceed.

The War Damage Commission has, however, refused to allow these fees on the ground that although they may be incurred in connection with the works, they are not incurred " in connection with the execution of the works," which is the phrase used in Section 123 (1) of the War Damage Act.

NOTES FROM THE MINUTES OF THE COUNCIL 21 March 1944

Appointments

British Standards Institution : Committee on Solid Fuel Appliances for Low Cost Housing :
Mr. Richard Ling [*F.*].

Provisional National Mural Council :
Mr. D. E. E. Gibson [*A.*].

Lectures Committee : Additional Members :
Mr. W. H. Ansell [*F.*]. Mr. Brian Peake [*A.*].
Mr. A. M. Chitty [*F.*]. Mr. J. N. Summerson [*A.*].
Mr. F. Gibberd [*F.*]. Mr. F. R. S. Yorke [*F.*].
Mr. S. G. Livock [*F.*].

Joint Consultative Committee of Architects and Builders

The Council have approved a proposal to appoint a Joint Consultative Committee of Architects and Builders consisting of seven members each of the R.I.B.A. and the N.F.B.T.E.

The Late Sir Edwin Lutyens

The Council have gratefully accepted from Lady Emily Lutyens and Wing-Commander Robert Lutyens the gift of Sir William Reid Dick's bust of the late Sir Edwin Lutyens which was commissioned for Viceroy House, New Delhi.

Obituary

The Acting Secretary reported with regret the death of the following members and students :—

Sir William van Hulsteyn [*Hon.A.*].
Charles Beresford Marshall [*F.*]. Killed on active service.
Wilfrid Wiseman Tonkin [*F.*].
Edwin Paul Wheeler [*F.*].
Mr. Wheeler was a Member of the Council.
Henry Langton Goddard [*Retd.F.*].
Wilfred Henry Harris [*A.*].
Charles Thomas Palmer [*A.*].
James Maclaren Ross [*A.*].
Arthur Reginald Groome [*Retd.A.*].
J. Pearn Lewis [*L.*].
Harry Thurstan Richardson [*L.*].
Kenneth George Withers [*L.*]. Killed on active service.
Bertram Lambert Purvis [*Student*]. Killed on active service.

Messages of sympathy have been conveyed to their relatives.

Professor A. E. Richardson, R.A. [F.]

The cordial congratulations of the Council have been extended to Professor A. E. Richardson [*F.*] upon his recent election as a Royal Academician.

Mr. Frank C. Mears, R.S.A., F.R.S.E. [F.]

The hearty congratulations of the Council have also been conveyed to Mr. Frank C. Mears [*F.*] upon his election as President of the Royal Scottish Academy.

Gift of Books to the R.I.B.A. Library

The thanks of the Council have been conveyed to Mr. F. Loughborough Pearson [*F.*], who has presented to the Library a collection of books, mostly previously belonging to the late Mr. John Loughborough Pearson, R.A., which comprises one of the largest gifts received for many years.

War Damage Repairs : Payment of Cost of Works Payments by Instalments

The Council decided to support the following proposals recently made by the Chartered Surveyors' Institution to the War Damage Commission :—

(1) That the importance of making interim advances upon cost of works payments as the work proceeds, with a view especially to facilitating the financing of larger operations, should be recognised, and that the extent to which, and the conditions upon which, such interim advances would be made, should be specifically announced.

(2) That the Commission should be prepared to authorise such advances up to 75 per cent. in cases where the estimated total cost is £2,000 or less, and up to 90 per cent. where the said cost exceeds £2,000, the percentage in each case being based on the value, as proved to the satisfaction of the Commission, of the works executed up to the date of application.

(3) That, having regard to the period normally prescribed in building contracts for the honouring of certificates for payments on account, the Commission should be prepared to accept the signed certificate of a qualified architect or surveyor as sufficient proof of value.

Rules of South Wales Institute of Architects

Certain proposed alterations to the rules of the South Wales Institute of Architects were formally approved by the Council.

Proposed Statutory Registration of Builders

A report approved by the Council of the National Federation of Building Trades Employers recommending the promotion of a statutory scheme for the permissive Registration of Builders was submitted, and it was agreed to comply with a request that representatives of the Institute should be nominated to serve on a Committee for the purpose of giving advice and assistance in this matter.

Architectural Appreciation

The Council approved a recommendation of the Committee for the Teaching of Architectural Appreciation in Schools, made through the Officers of the Board of Architectural Education, that the President of the Board of Education should be asked to receive a deputation to urge that consideration should be given to the need for evoking architectural appreciation in teachers as a first step towards the development of such appreciation in school children.

Demobilisation

Authority was given to the Demobilisation Committee to proceed with a scheme for the establishment of a Central Bureau designed to assist architects and architectural assistants to find employment on being demobilised from the forces or released from other forms of National Service, and draft letters, Press notices, and questionnaires prepared in connection wit hthe scheme were approved.

Membership

The following members were elected :—

As Hon. Associate (1), as Hon. Corresponding Member (1), as Fellows (5), as Associates (3), as Licentiates (14).

Election, 18 April 1944 :

Applications for election were approved as follows :—

As Hon. Corresponding Member (1), as Fellows (12), as Associates (36), as Licentiates (16).

Election, 20 June 1944 :

One application from an overseas candidate for election as an Associate was also approved.

Reinstatements :

The following ex-Members were reinstated :—

As Fellows : Wing-Commander Wells Coates.
Allen Foxley [*Retd.F.*].
As Associates : Deryck Thomas Bellamy.
Miss Amy Muriel Hargroves.
Horace Williams.
As Licentiates : Francis Griffith John Place.
Alexander George Albert Quibell [*Retd.L.*].

Resignations :

The following resignations were accepted with regret :—

Archibald Gilchrist Paton [*A.*].
Arnett Hibbert [*L.*].
Alfred William Tippetts [*L.*].
William Oswald Wright [*L.*].

Transferred to the Retired Members' Class :

The following members were transferred to the Retired Members' Class under Bye-law 15 :—

As Retired Fellow : Robert John Angel.
As Retired Licentiate : Robert Allen Fordham.

NOTES FROM THE MINUTES OF THE COUNCIL 18 APRIL 1944

Appointments

Public Relations Committee
Lieut. R. Y. Goodden, R.N.V.R. [*A.*].

British Standards Institution : Reconstituted Building Divisional Council
H. M. Fairweather [*F.*].

Building Industries National Council
F. R. Hiorns [*F.*] in place of Mr. Basil M. Sullivan [*F.*], who has resigned on appointment as Chairman of the Board of Architectural Education.

Department of Architecture, Southern College of Art, Portsmouth Centre

The Council approved a recommendation by the Visiting Board that the Department of Architecture of the Southern College of Art, Portsmouth Centre (evacuated to the School of Art, Winchester) should be granted recognition of the three-years' course for exemption from the R.I.B.A. Intermediate Examination, subject to a further inspection when the school returns to Portsmouth. Recognition will date from the third year examinations held during the school year 1943-44.

War Damage Repairs : Payment of Cost of Works Payments by Instalments

The Acting Secretary reported that in reply to representations made with regard to war damage repairs and payment of cost of works payments by instalments, the War Damage Commission had stated that

consideration was being given to the best arrangements for ensuring that there should be adequate and timely finance for the work of repairing war-damaged properties when general reconstruction became possible.

Deputation to Minister of Health on Circular 14/44 on Advance Preparation of Housing Sites

It was reported that a deputation consisting of the President, Mr. L. Sylvester Sullivan (Chairman of the Practice Committee), Mr. C. H. James (Chairman of the Housing Committee), Mr. A. W. Kenyon, Mr. Edwin Williams and Mr. C. D. Spragg (Acting Secretary) waited upon the Minister of Health and Sir John Wrigley, Joint Deputy Secretary, on March 22 and stressed the undesirability of the employment of architects, as suggested in Circular 14/44 regarding Advance Preparation of Housing Sites, for roads and sewers only without consideration of layouts. The Minister had stated that his intention was that layouts should in fact be prepared with houses shown in block form, and that he was anxious that architects should be employed to design the houses themselves when it was possible for local authorities to give detailed instructions. It was also appreciated that it was desirable that the private practitioner employed for the work should have the same opportunity as the official architect of seeing a scheme through to its conclusion. The Minister had added that he would urge local authorities to obtain competent technical advice in connection with all housing schemes.

Gift of Drawings by Mrs. Henry Noel

The thanks of the Council have been conveyed to Mrs. Henry Noel, granddaughter of Charles Robert Cockerell, who has presented to the R.I.B.A. a group of drawings by Alfred Stevens and her grandfather of the sculptures at Lincoln and Wells Cathedrals and has also lent, until further notice, the famous Charles Robert Cockerell drawing, "A Tribute to the Memory of Sir Christopher Wren."

Obituary

The Acting Secretary reported with regret the death of the following members and student :—

Sir Cecil Harcourt Smith, K.C.V.O., LL.D. [Hon. *A.*].
Lionel Colin Brewill [*F.*].
Robert John Angel [Retd. *F.*]. Mr. Angel was a past member of the Science Committee and had represented the R.I.B.A. on the Councils of other bodies and on many Committees of the British Standards Institution.
John Campbell [Retd. *F.*].
Colin William Anderson Inglis [*A.*]. Killed on active service.
Kenneth Perry (Student). Killed on active service.

Messages of sympathy have been conveyed to their relatives.

Birmingham and Five Counties Architectural Association

The Council formally approved the suspension of certain Rules of the Birmingham and Five Counties Architectural Association enabling the President and Council to continue in office for the ensuing session.

Membership

The following members were elected :—

As Hon. Corresponding Member (1), as Fellows (12), as Associates (40), as Licentiates (16).

Election, 16 May 1944.

Applications for election were approved as follows :—

As Fellows (3), as Associates (10), as Licentiates (24).

Election, September 1944.

One application from an overseas candidate for election as a Fellow was also approved.

Reinstatements.

The following ex-members were reinstated :—

As Associate : John Duncan Wylson (Lt.-Commander R.N.V.R.).
As Licentiate : Evan Holford Mills.

Resignations.

The following resignations were accepted with regret :—

Norman Henry Atkins [*F.*].
Douglas Harold Payne [*L.*].

ARCHITECTS' BENEVOLENT SOCIETY ANNUAL GENERAL MEETING AND REPORT

The annual general meeting of the Architects' Benevolent Society was held at noon on Wednesday, 26 April 1944, at the Royal Institute of British Architects.

The President, Mr. Percy E. Thomas, O.B.E., P.R.I.B.A., in moving the adoption of the report, statement of accounts and balance sheet, said :—

"Although the general position of the Society is satisfactory, we have not been able to give grants which are really adequate for the times, in view of the increased cost of living. We cannot do so until greater help is received from members generally.

"The response to the Half-Crown Appeal has been the highest we have had up to date, but this still represents only one-tenth of the profession. I hope that the other nine-tenths will come forward to support the Society and so help our work.

"We are most grateful to the Allied and other Architectural Societies, not only for helping financially, but also for their reports and recommendations of local cases."

Captain H. S. Goodhart-Rendel, Hon. Treasurer, in presenting the accounts and balance sheet, drew attention to a new form of donation received by the Society—some National Savings Certificates. The Society was entitled to hold these, and they were a gift which might prove invaluable as a reserve for post-war difficulties. He hoped that this reserve might grow as the result of further donations of the same kind.

The account and balance sheet were approved, and the report, from which extracts are given below, was adopted.

The Society's position is satisfactory for the fifth year of war, and it has been possible to give more help than during the previous year, but general support of the Society still lags far behind the needs to be met.

Pensions and Grants

The number of applications for assistance has increased slightly since last year, there being sixteen cases which were applying for the first time, and the amount distributed has been larger. Of one hundred and eleven cases assisted, thirty-four were architects or assistants, sixty-four were widows, and thirteen orphans. The special fund contributed by American architects has been further drawn upon for the assistance of widows and orphans of architects in distress or difficulty due chiefly to the war. Those so helped have expressed their deep gratitude for this generous help from our Allies.

Finance

There has been a slight but very welcome increase in the number of annual subscribers, and for this new support the Council are most grateful.

Some members have kindly increased their subscriptions, including the Manchester Society of Architects, who have doubled their subscription to £21.

Individual and collective donors are thanked and it is noted that one of the Technical Centres of the War Damage Commission in London raised sufficient to provide a grant of 10s. a week to an applicant.

Legacies were received during the year under the wills of Mr. G. J. Aldous (£202 19s. further instalment), Sir Reginald Blomfield (£100), and Mr. E. G. Theakston (£45).

Half-Crown Appeal

The President, Mr. Percy Thomas, issued a personal appeal to architects before Christmas for donations to the "Half-Crown Fund," originated in 1939 by the late Mr. Stanley Hall as an appeal for 8,000 half crowns (£1,000) towards the Society's work. Owing to paper restrictions, the appeal could be sent to only two-thirds of the total number of registered architects, but thanks to the kind co-operation of the various architectural organisations and Journals much further publicity was given to the Appeal. In response the sum of £827 4s. was received by the end of the year, and further donations in 1944 increased this total to £884 3s. 6d. This useful and encouraging result, received mostly in small sums, will enable the Society to go forward with its work in the coming year with confidence.

Insurance

Receipts from insurance were £529, an increase on last year's total. This amount, being commission on policies taken out through the Society's agency, is treated as representing donations from the policyholders towards the Society's work, and is a most welcome addition to the funds.

In connection with insurance, the Council wish to express their thanks to *The Architect and Building News, Architectural Design and Construction*, and *The Architects' Journal* for free advertisement space given during the year, representing a considerable sum in value.

Council and Officers

The five senior members of the Council retire by rotation, but Mr. Curtis Green continues his membership of the Council as a trustee of the Society and Mr. F. R. Hiorns and Mr. J. A. Slater have kindly accepted re-nomination. To fill the vacancies, the Council have much pleasure in nominating Mr. L. Sylvester Sullivan, Mr. Charles Woodward and Mr. S. Phillips Dales.

Mr. B. M. Ward has been appointed representative of the Liverpool Architectural Society. The representative of Architectural Students is now Mr. John Beloff.

The Council wish to express their gratitude to the R.I.B.A. for the use

of office accommodation, committee rooms and other services, and to the Secretary and staff for courteous help on all occasions.

In conclusion, the Council wish to urge every member of the architectural profession to support the Society, and asks that everyone who already contributes should try to enrol another subscriber, so that the Society's work may be continued, and help in distress may be given wherever needed.

Membership Lists

ELECTION: SEPTEMBER 1944

An election of candidates for membership will take place in September 1944. The names and addresses of the overseas candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Monday, 28 August 1944.

The names following the applicant's address are those of his proposers.

AS FELLOWS (2)

HALL: ALEXANDER SERGEANT [*A.* 1924], Allied Works Council, 271 Collins Street, Melbourne; 27 High Street, Mont Albert, E.10, Victoria, Australia. P. H. Meldrum, W. A. Henderson and C. E. Serpell.

WEERASINGHE: OLIVER [*A.* 1932], A.M.T.P.I., Dip.Arch. (L'pool), Town Planner's Office, Local Government Department, Colombo, Ceylon; 115 Havelock Road, Colombo. Prof. Patrick Abercrombie, Prof. Lionel B. Budden and Clifford Holliday.

AS ASSOCIATES (2)

The name of a school, or schools, after a candidate's name indicates the passing of a recognised course.

LYON: ERIC DONALD [Passed a qualifying Exam. approved by the R.A.I.A.], 22 Glen Orme Avenue, McKinnon, S.E.14, Melbourne, Australia. P. H. Meldrum, Leighton Irwin and C. E. Serpell.

MARTIN: DOUGLAS EDWARD BARRY, B.Arch. [Univ. Coll., Auckland, N.Z.], 26 Nelson Street, Petone, Wellington, N.Z. Applying for nomination by the Council under Bye-law 3 (*d*).

ELECTION: APRIL 1944

The following candidates for membership were elected in April 1944.

AS HON. CORRESPONDING MEMBER (1)

AHLBERG: CLAES AXEL HAKON, Stockholm, Sweden.

AS FELLOWS (12)

ANDREWS: PERCY MAGUIRE [*A.* 1913], Manchester.

BEAUMONT: JOHN SOMERVILLE, M.C., B.A. [*A.* 1922], Manchester.

HAYWORTH: DUDLEY PARKES [*A.* 1907].

MANT: CECIL GEORGE [*A.* 1929].

And the following Licentiates who have passed the qualifying Examination:—

CROSS: MAX GEORGE, Weymouth.

MORT: ARTHUR EDWARD THOMAS (Major, R.E.), Winchester.

OSBORNE: ARTHUR LESLIE, Leamington Spa.

SMITH: JOHN MARSH, Ebbw Vale.

And the following Licentiates who are qualified under Section IV, Clause 4 (*c*) (ii) of the Supplemental Charter of 1925:—

GRIFFITHS: STANLEY ALBERT, Stourbridge.

HAXTON: ANDREW DAVID, Leven.

SMITH: STUART VEITCH, Pontefract.

WRIGHT: WILL JOHN BROCKIE, Glasgow.

AS ASSOCIATES (40)

ANDERSON: HARRY, Cambridge.

ARONOWITZ: ISAAC, B.Arch. (Rand), East London, South Africa.

BARNETT: MICHAEL.

BARRON: DONALD GABRIEL.

BLACKLOCK: JOHN DONALD, Sunderland.

BOOTH: ALAN LEETCHFIELD.

BOSANQUET: MRS. HILARY JUNE.

CHALMERS: GORDON TUDHOPE, B.Arch. (Rand), Johannesburg, South Africa.

COIA: JOHN PETER, Glasgow.

CROSSLEY: ALAN, Stockport.

CROWE: MRS. SHEILA MARGARITE, Dublin.

DALEY: HARRY.

DUNAND: MISS AMELIA ETHEL CATHERINE.

EARLY: MISS ELEANOR MARY, Witney.

EDWARDS: JOHN EDWARD GRAEME, Birmingham.

EMMERSON: GEORGE THOMAS, Darlington.

EVANS: MISS JESSIE MAUD MORTON, Bristol.

FARQUHAR: ALEXANDER, Coatbridge.

GIBBINS: WILLIAM LEIGHTON, Harrogate.

GREENBLO: EZRA, Muizenburg, South Africa.

GREIG: MRS. DOREEN EDITH, Johannesburg, South Africa.

GUILD: WILLIAM MALCOLM, Cupar.

HAMILTON: ARTHUR SALMOND, Darlington.

HARRISON: WILLIAM THOMAS, Doncaster.

HARVEY: MISS GRACE ELIZABETH MURIEL.

HAYMAN: GEORGE ALBERT CHARLES, Exeter.

HECHT: SAMUEL PHILIPPE ALEXANDRE.

HUGHES: MAURICE HOWARD, Leicester.

HUNT: BERT RAYMOND, B.Arch. (Dunelm), Sunderland.

HUTTON: CHARLES WILLIAM.

LOUDON: WILLIAM DOUGLAS, Airdrie.

MONK: GILBERT LESLIE.

PAINE: ROBERT WILLIAM, A.R.C.A.

PEARCE: GEORGE ALBERT HENRY.

POEL: STANLEY BACON.

REEKS: STANLEY THOMAS CHARLES.

REID: ALEXANDER BUDGE, Reading.

RYDER: JOHN GORDON, Newcastle-upon-Tyne.

SAYCE: GORDON HENRY.

WYATT: SAMUEL THOMAS, Bristol.

AS LICENTIATES (16)

CHARLES: MAJOR WILLIAM HENRY.

FARMER: CYRIL PARSONS, Reading.

FARRALL: ARTHUR WILLIAM EDWARD.

GESSEY: LEONARD RICHARD.

GOODERSON: ARTHUR VIVIAN.

GRAY: LOUIS HENRY, F.S.I.

GREENHALGH: HAROLD, P.A.S.I., Bolton.

HUDSON: MILES WALTER.

HUDSON: WALTER OAKLEY.

KIRK: STANLEY LAWRENCE, Worthing.

MCKINLAY: GEORGE.

MITCHELL: LEONARD PERCIVAL.

MORTIMER: HAROLD.

PONSFORD: HARRY THOMAS.

SMITH: CLARENCE EDWARD.

THOMAS: ROWLAND ARCHER, Manchester.

ELECTION: JUNE 1944

An election of candidates for membership will take place in June 1944. The names and addresses of the candidates, with the names of their proposers, found by the Council to be eligible and qualified in accordance with the Charter and Bye-laws are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Saturday, 10 June 1944.

The names following the applicant's address are those of his proposers.

AS FELLOWS (3)

JONES: ROBERT DAVID [*A.* 1921], Ministry of Town and Country Planning, 17 Ninian Road, Cardiff; 10 Holmwood Terrace, Cyncoed Road, Cardiff. T. A. Lloyd, Howard Williams and L. R. Gower.

SHARPE: ALBERT LAWRENCE [*A.* 1933], 4 Loseby Lane, Leicester; The Cottage, Hinckley Road, Kirby Muxloe, near Leicester. A. F. Bryan, J. O. Thompson and G. A. Cope.

And the following Licentiate who has passed the qualifying Examination:

NEWTON: ERNEST ALBERT, Rutherford Chambers, Bow Lane, Manchester; Willows, Moss Lane, Timperley, Cheshire. Prof. L. B. Budden, Prof. R. A. Cordingley and Francis Jones.

AS ASSOCIATES (4)

The name of a school, or schools, after a candidate's name indicates the passing of a recognised course.

ADAMS: JOHN TREADWELL [Final], 6 Viewfort Park, Upper Malone, Dunmurray, N. Ireland. Applying for nomination by the Council under Bye-law 3 (*d*).

GIFFORD: MISS ELSPETH GRIZEL [Edin. Coll. of Art], Auchendoon, Newton Stewart, Wigtownshire. A. A. Foote, F. C. Mears and Leslie Grahame-Thomson.

MORRIS: WILLIAM [Final], 343 Derby Road, Lenton, Nottingham. Jno. Stuart, F. Willey and R. D. Scott.

O'REILLY: CORNELIUS GERARD, B.Arch. [Univ. Coll., Dublin], 6 Cadogan Road, Fairview, Dublin, Eire. Applying for nomination by the Council under Bye-law 3 (*d*).

AS LICENTIATES (7)

ALDAM: HARRY BLACKBURN, Town Hall, Cleckheaton, Yorks; "Gleadless," The Hough, Northowram, Halifax. Applying for nomination by the Council under Bye-law 3 (*d*).

BOWEN : PERCY, Architect's Department, L.C.C., The County Hall, S.E.1 ; 15 Russell Road, W.14. J. W. Hepburn, R. Wilson and A. J. Durnford.

CLARKE : WILLIAM ROBERT CHRISTOPHER, Messrs. Kodak, Ltd., Headstone Drive, Wealdstone, Middx. ; 78 Holly Bush Lane, Hampton, Middx. Applying for nomination by the Council under Bye-law 3 (*d*).

FISK : SIDNEY HAROLD, 42 The Vale, Winchmore Hill Road, Southgate, N.14. G. B. Imrie, H. H. Scott-Willey and J. S. Beard.

HARDING : AUBREY JULIAN, Midland Bank Chambers, High Street, Winchester, Hampshire ; "Fayreacre," Worthy Road, Winchester. Gerald Unsworth and the President and Hon. Sec. of the Hampshire and Isle of Wight A.A. under Bye-law 3 (*a*).

RANKINE : DAVID, The Maypole Dairy Co., London Road, Worcester ; 13 Spetchley Road, Worcester. Applying for nomination by the Council under Bye-law 3 (*d*).

SANDERS : HARRY PERCIVAL, Ministry of Works, Preston ; 2 All Saints Road, St. Annes, Lancs. G. E. Tonge, Albert Schofield and Norman Jones.

Competitions

LONDON AIRPORT

The "Aeroplane" invite designs for an Airport for London from architects and others interested in post-war aviation.

Competitors must be members of the British Empire.

Closing date, 31 December 1944, which will be extended for overseas competitors.

The Judges are :—Mr. Austin Blomfield, M.A. [*F.*] ; Dr. Roxbee Cox, B.Sc., D.I.C., F.R.Ae.S. ; Air Vice-Marshal Bennett, C.B.E., D.S.O. ; Mr. Dennis H. Handover, Air Adviser to the Railways Committee ; Mr. W. R. Verdon Smith, Director of the British Aeroplane Company.

Prizes :—£500, £100, £50.

Full conditions of competition may be obtained from "The Aeroplane," Bowling Green Lane, London, E.C.1.

DARTINGTON HALL : COTTAGES

The Dartington Hall Trustees invite registered architects to submit in competition designs for cottages to be erected in the post-war period on a site at Dartington, Devon.

Assessors : Dr. Charles Holden [*F.*] and Mr. Lionel Pearson [*F.*].

Premiums :—£150 and a further £150 to be awarded at the discretion of the Assessors.

Last day for submitting designs :—31 August 1944.

No questions will be answered.

Conditions of the competition may be obtained on application to the Secretary, Dartington Hall Trustees, Dartington, near Totnes, Devon, on payment of a fee of 5s.

A short edition of the conditions modified to meet field conditions is being issued to the Forces through the following :—

Admiralty :—Instr. Commdr. F. S. Sobey, R.N., The Education Department, Admiralty, London, S.W.1.

War Office :—Lt.-Col. J. E. Nelson (for Director of Army Education), The War Office, 45 Eaton Square, London, S.W.1.

Air Ministry :—The Director of Educational Services, The Air Ministry, Adastral House, London, W.C.2.

TIMBER HOUSE COMPETITION

The Timber Development Association, Ltd., invite architects of British nationality to submit in competition designs for a pair of semi-detached timber houses.

Assessors :—Mr. C. Cowles-Voysey [*F.*] ; Mr. Brian O'Rorke [*F.*] ; Mr. Frederick MacManus [*F.*] ; Mr. Bryan Latham, Vice-President of the Timber Trade Federation of the U.K. ; Mr. G. W. Grosvenor, Chairman of the Timber Building Manufacturers Association.

Premiums :—£250, £100 and £50.

Last day for submitting designs :—30 September 1944.

Last day for questions :—1 June 1944.

Conditions of the competition may be obtained on application to The Secretary, Timber Development Association, 75 Cannon Street, London, E.C.4.

Notices

GENERAL MEETING, 27 JUNE 1944 AT 6 p.m.

There will be a General Meeting on Tuesday, 27 June 1944 at 6 p.m., when the Report of the Scrutineers appointed to examine the voting papers for the election of the Council for the Session 1944-1945 will be read. This will be followed by an Informal Meeting at which Sir Malcolm Trustram Eve, K.C., Chairman of the War Damage Commission, will give a talk on "The War Damage Act and Architects."

Minutes

SESSION 1943-44

At the one hundred and sixth annual general meeting, held on Tuesday, 16 May 1944, at 6 p.m.,

Mr. Percy Thomas, President, in the chair.

The meeting was attended by about 66 members.

The President reminded the meeting that under the provisions of the Chartered and Other Bodies (Temporary Provisions) Act, 1939, the holding of formal general meetings during the war period had been suspended, but that in view of a strongly expressed desire on the part of a representative body of members, the Council had decided to apply for permission to resume the holding of the Annual Council Election and the Annual General Meeting.

The President stated that the Lord President of the Council had eventually agreed to the applications, and this 106th Annual General Meeting had been arranged accordingly. Had annual general meetings been held during the war period, this would have been the 110th in the series.

The President formally presented and moved the adoption of the report of the Council and Committees for the official year 1943-44. The Hon. Secretary seconded the motion, and a discussion ensued.

The motion having been put from the chair, it was resolved that the report of the Council and Committees for the official year 1943-1944 be approved and adopted.

The President stated that the list of attendances at the Council meetings had been laid on the table, and would be printed in the next issue of the JOURNAL, and also sent out to members with the voting paper.

On the motion of the President, a vote of thanks was passed by acclamation to Mr. J. D. Hossach [*F.*] and Mr. Ronald Topham [*A.*] for their services as hon. auditors for the past year.

Mr. Ernest B. Glanfield [*F.*] and Mr. Ronald Topham [*A.*] were nominated for election as hon. Auditors for the ensuing year of office.

The proceedings closed at 6.55 p.m.

MEMBERS' COLUMN

PARTNERSHIPS AND PRACTICES

MEMBER in private practice, seventeen years in South-west England, at present in charge of construction work for Government Department, seeks partnership in a London practice. Goodwill of own practice (established 1900) offered.—Reply Box 1844, c/o Acting Secretary R.I.B.A.

ASSOCIATE and A.M.T.P.I. with considerable and varied experience in high-class work, is desirous of contacting a Member (or firm) with established practice with a view to post-war partnership or position of Chief Assistant. South, South-west or Midlands preferred.—Box 2144.

FELLOW, aged 43, with wide experience, desires partnership with good prospects for post-war work. London area preferred. Details to Box 1444, c/o Secretary R.I.B.A.

Member, age 40, requires position with first-class London practice as Manager, with view to partnership. Experience in controlling and supervising works on large scale.—Box 1354, c/o Acting Secretary, R.I.B.A.

OFFICE ACCOMMODATION

Member urgently requires well-lit offices (2 rooms minimum). Modern block or buildings of character, Mayfair or Piccadilly area. Would share suite. Full particulars to Box 1954, c/o Acting Secretary, R.I.B.A.

CHANGE OF ADDRESS

MR. FREDERICK HILL [*A.*], A.M.T.P.I., has changed his address to 19 High Street, Melksham, Wilts.

CORRESPONDENCE COURSE

At the request of the War Office, Mr. L. Stuart Stanley, M.A. [*F.*], M.T.P.I., tutor in the Bartlett School of Architecture, London University, has placed his Correspondence Courses of tuition for the examinations of the R.I.B.A. (Intermediate and Final) at the disposal of members of the Forces. Applicants wishing to qualify, or those who wish to read subjects culturally, should apply to their Commanding Officer (or Unit Education Officer) for the necessary enrolment forms, or to the Assistant Principal A.E.3, The War Office, 41, Eaton Square, London, S.W.1. The fee is ten shillings and text books are free.

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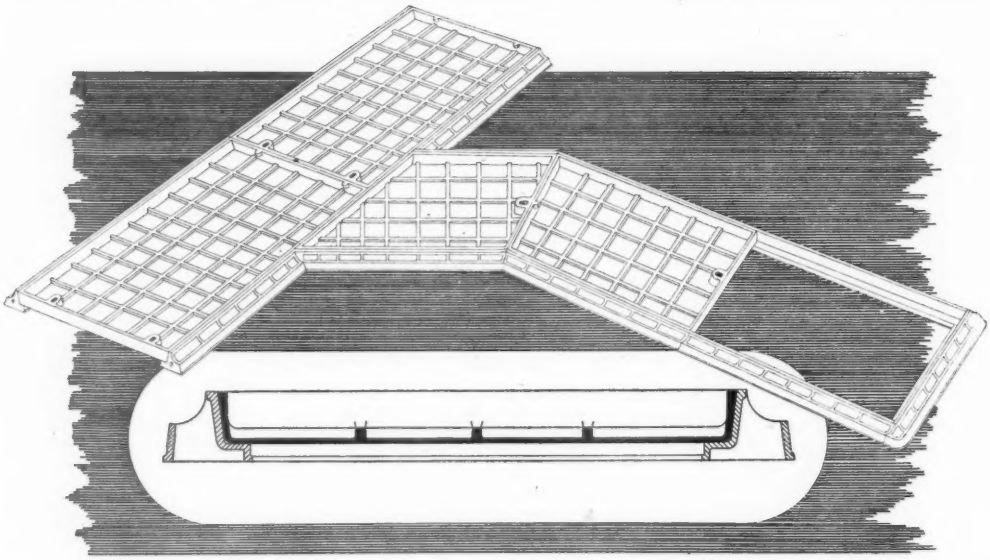

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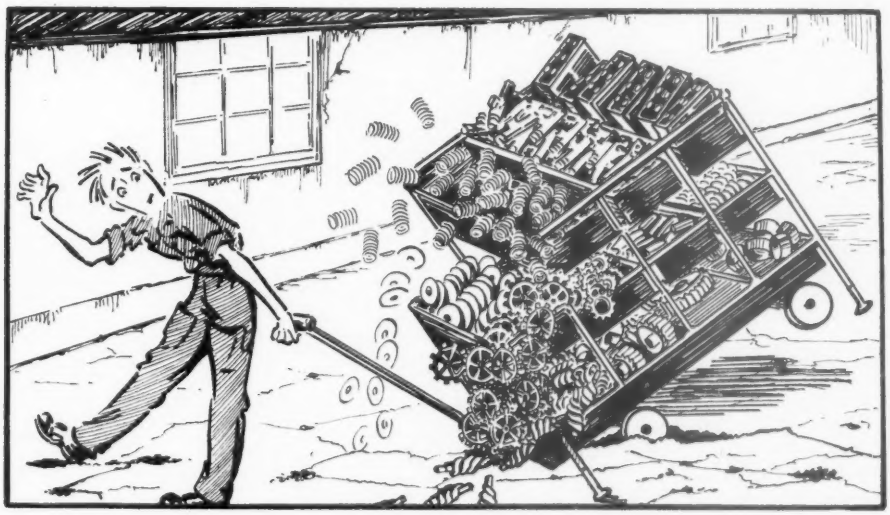

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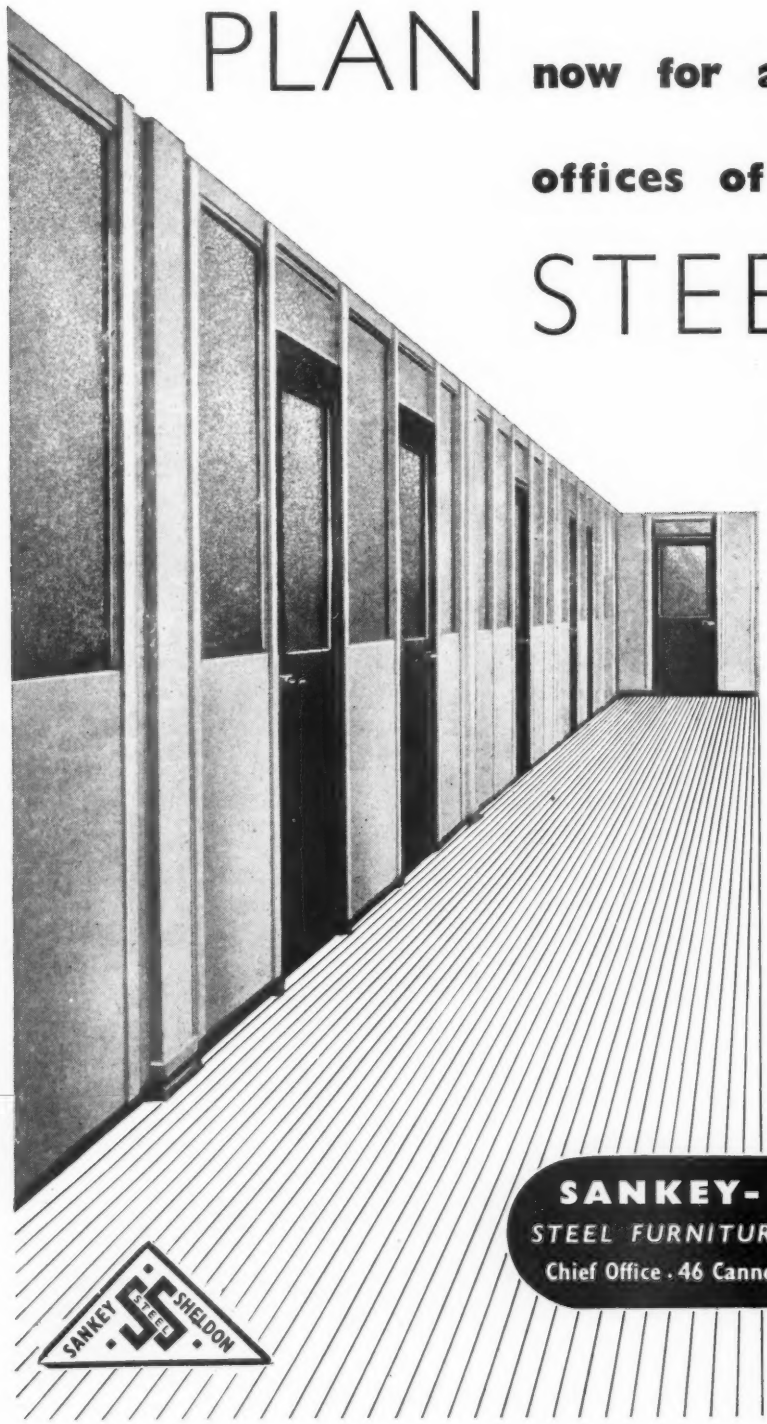

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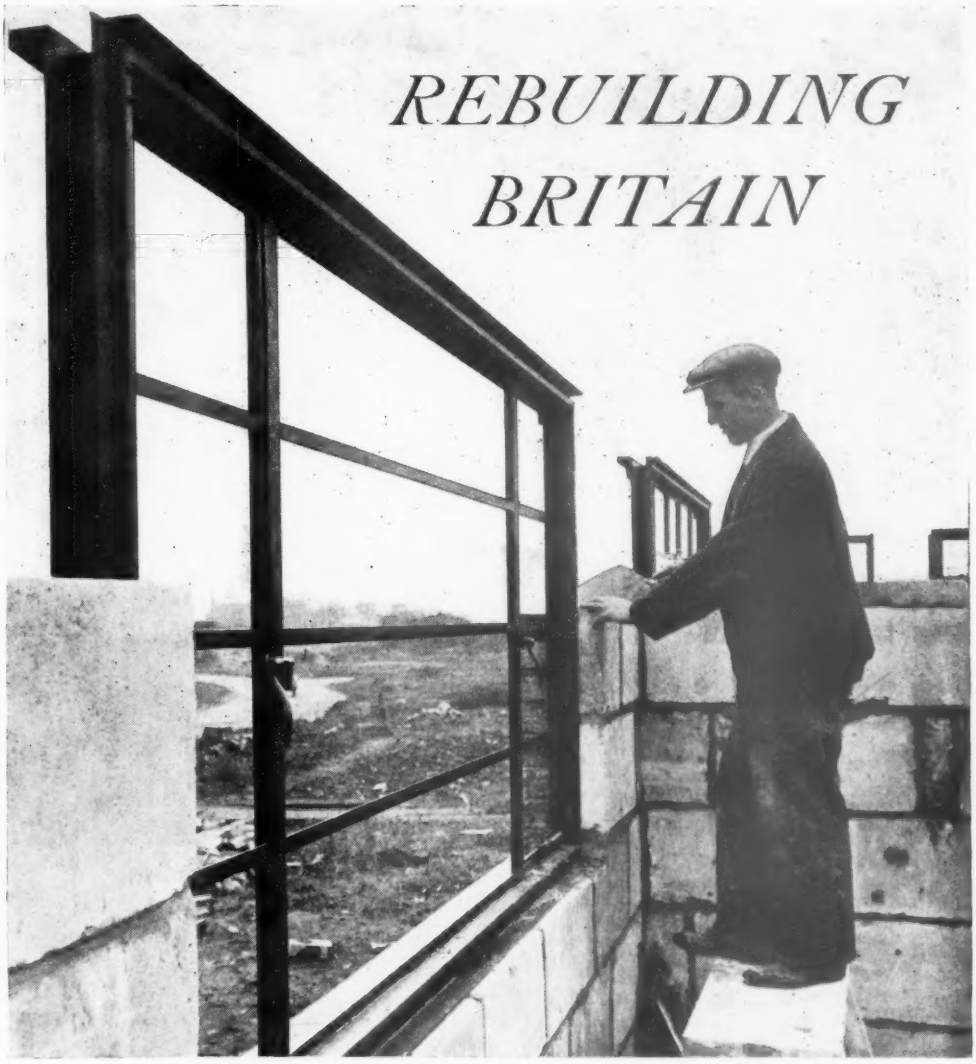

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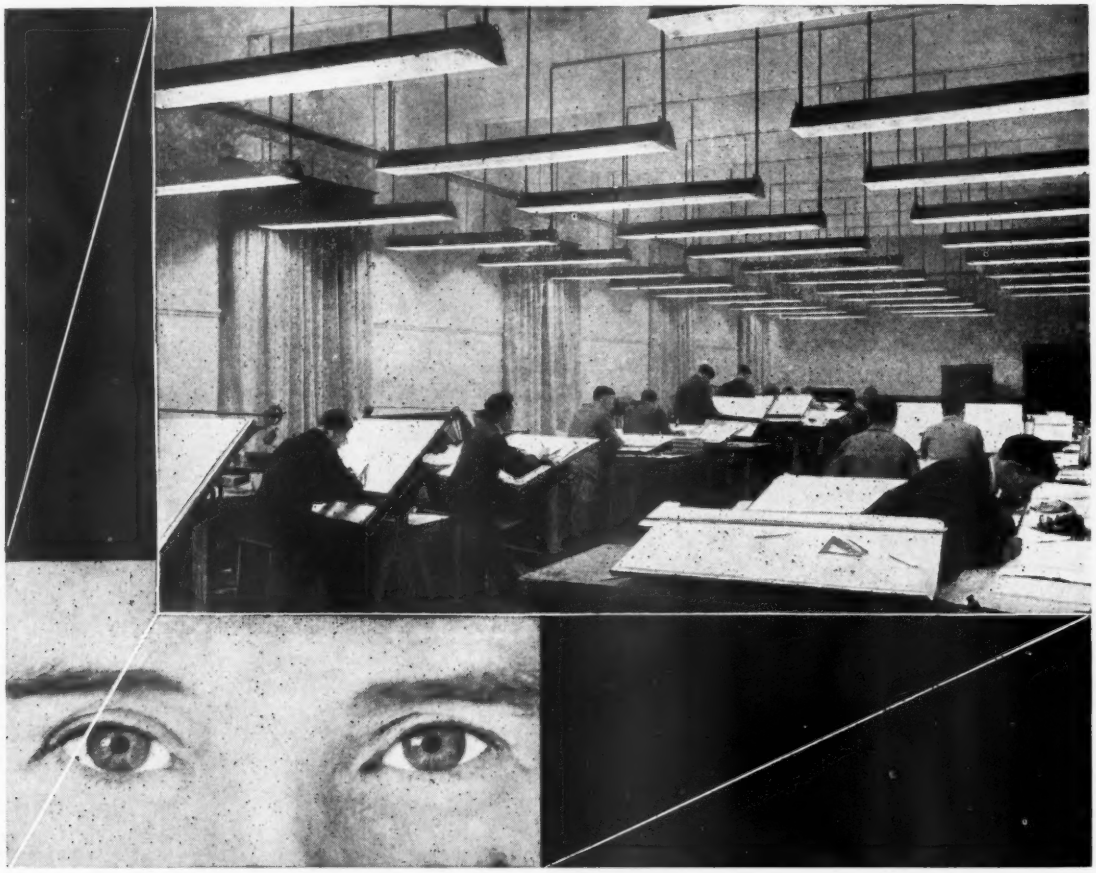

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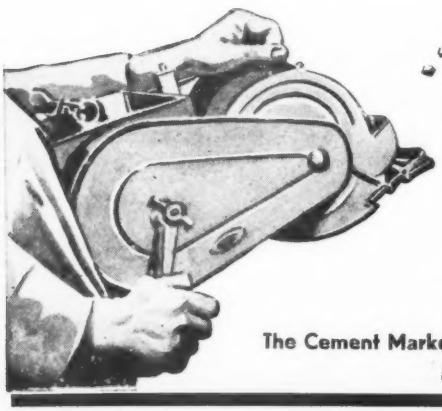

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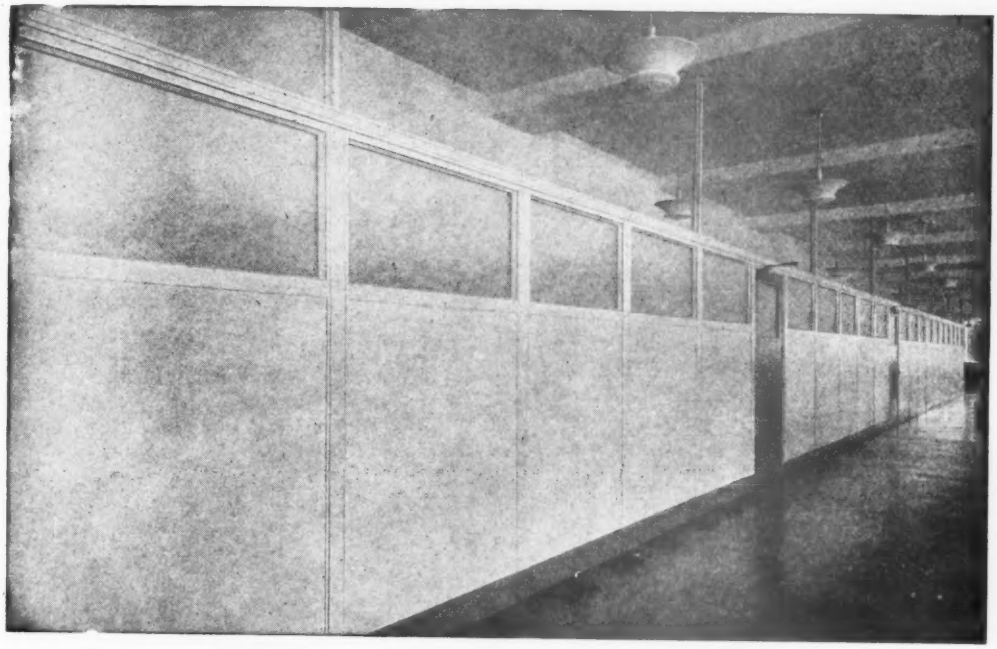

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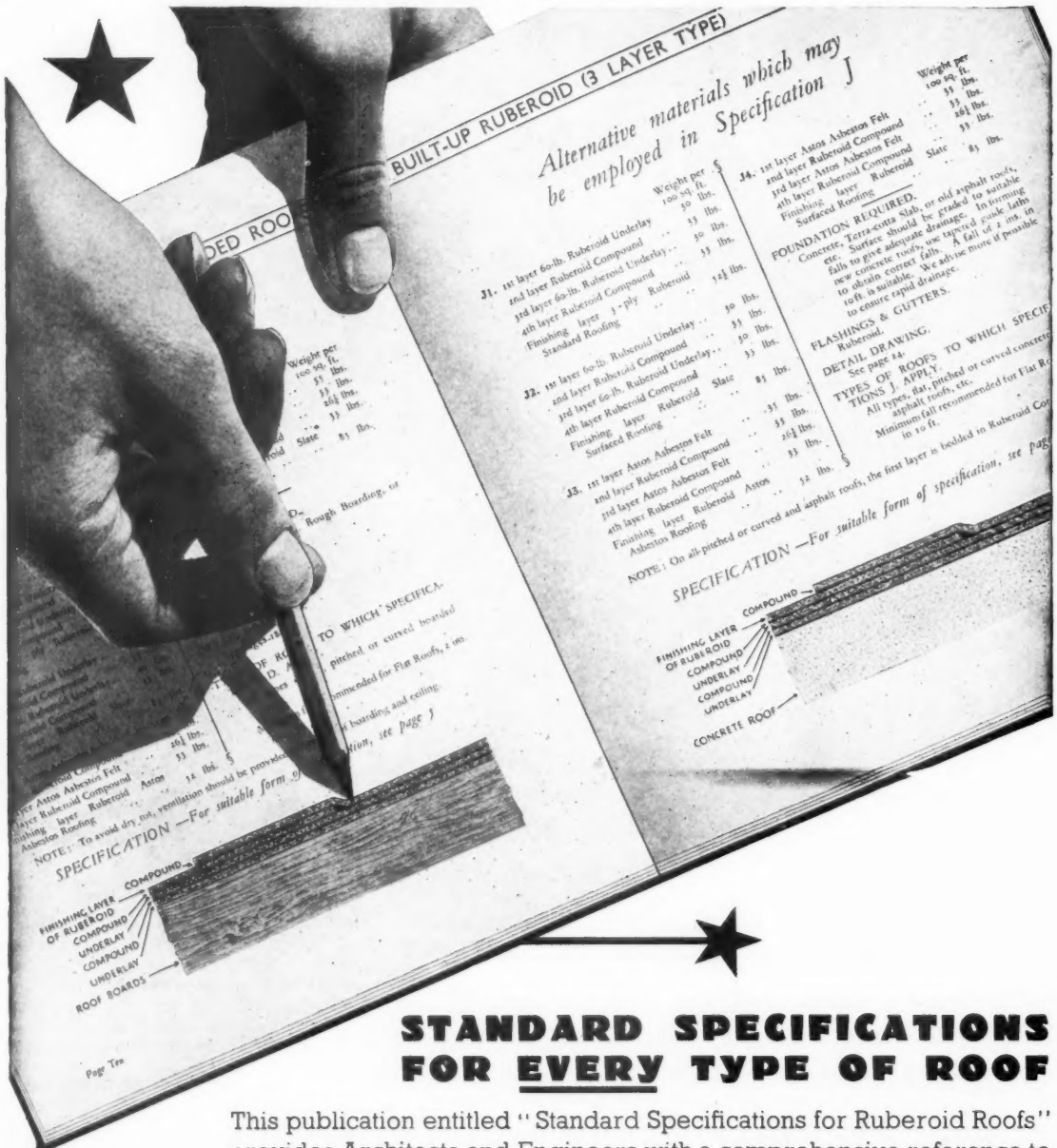

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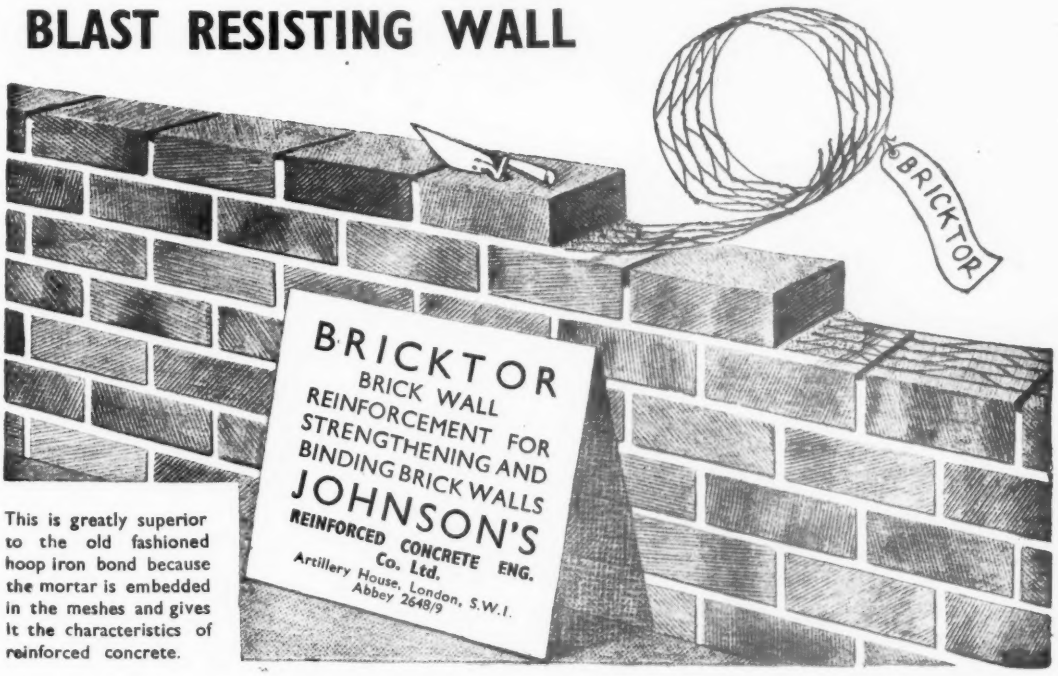

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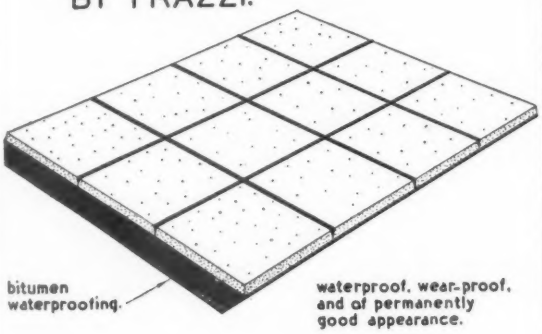

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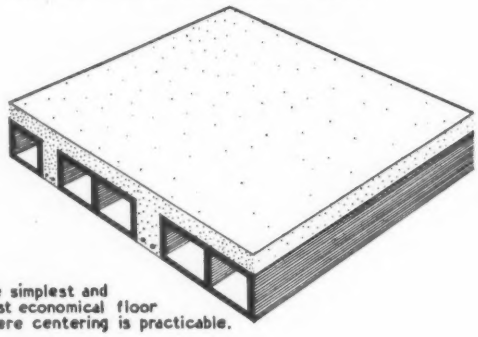

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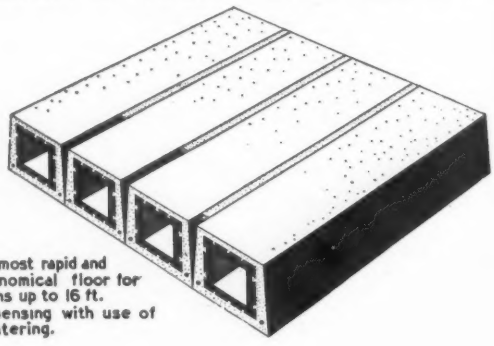

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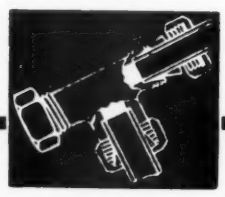

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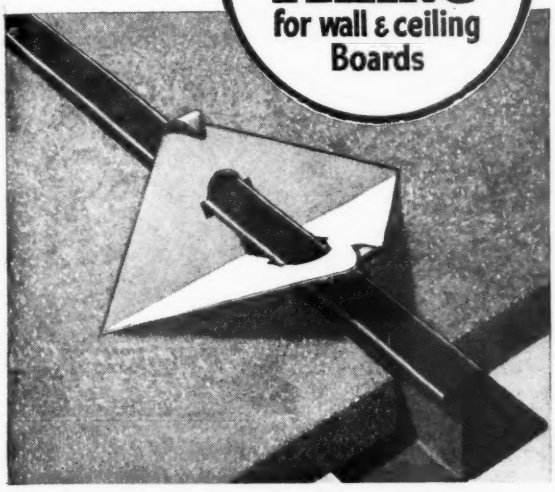

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3. Clips are suitable for any type or thickness of board, and once fixed cannot be loosened by vibration or atmospheric changes.

4. No bolts or screws. Nothing to work loose. No loose corners of board. No "floating" noggings—clips being adjustable along whole length of T bar may be located, as required, at corners of boards, thus holding noggings firmly on T bars.

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6. Adjustable one-piece slotted hangers obviate punching or drilling of holes in T bar. No holes required at end-to-end junction of T bars. Junction sleeve fitting snugly on bar provides extremely rigid connection.

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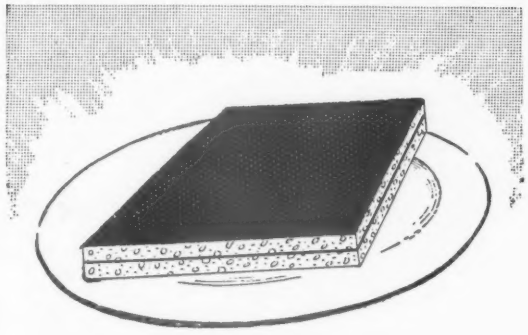

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Even in the bad old days someone was fighting household drudgery. In fact this 1844 kitchen by Soyer might well pass for a 1944 model . . . if it weren't for the roasting fireplace !

But to-day, kitchen planning cannot be left to individual inspiration, however brilliant. It is fast becoming a subject of national concern . . . one of those vital aspects of post-war planning. Many Research Committees have already been formed in Britain, among them the Domestic Heat Services Committee set up by the Gas Industry to kill the tradition of the bad old days from which thousands of housewives still suffer, even to-day. This Committee, assisted by a well-known woman architect, is already busy, both here and in America, on such subjects as working movements in the kitchen, ventilation, mechanical washing and clothes drying, refrigeration and the different demands of town and country life, flat and house dwellers.

Special attention is being given to the needs of the lower income groups, and bearing in mind the successful work at Kensal House, great emphasis will be laid on the fullest integration of engineering services and equipment within the structure of the new homes, so that complete architect-designed houses may replace piecemeal 'odd jobbery' and haphazard jerry-building.

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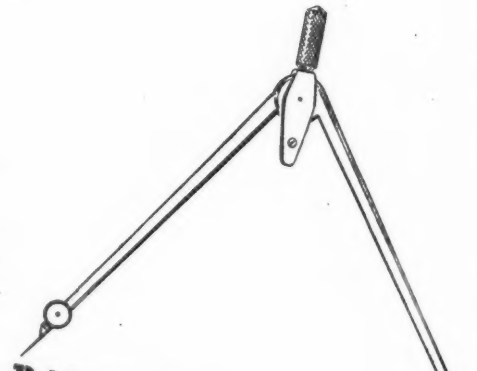

BALANCED PLANNING

Let us hope that, in the coming days of reconstruction, the broad interests of the nation will be nicely balanced with the natural aspirations of the individual; and that at the same time wise planning will not be limited by narrow vision or short-term expediency.

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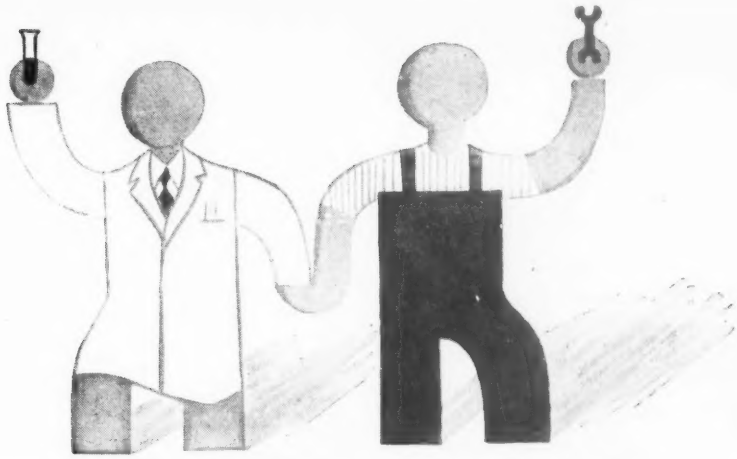

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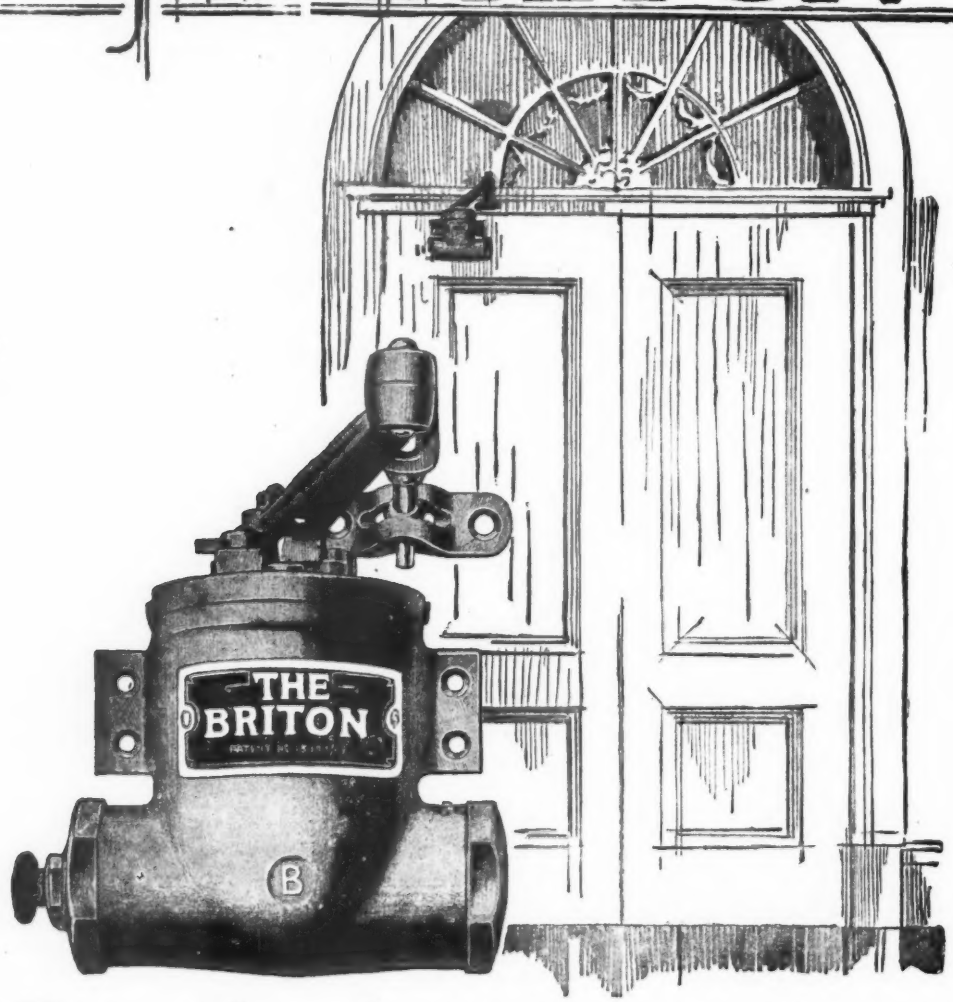

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